VARI*LITE® Control Systems

Virtuoso™ / Virtuoso™ DX Console User's Manual

SV 4.2

VARI*LITE®

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Germany Design Patents No. M 98 01 745.4; M 96 04 515.9; M 96 04 514.0; M 94 07 689.8; M 94 02 951.2; M 499 03 583.6; M 498 11 203.9; G 93 12 884.3;

Spain Patents No. 2 090 191; 2 084 289; 2 020 960; 0 548 328;

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Spain Design Patents No. 0.137.502; 0.137.501; 0.133.573;

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Japan Patents No. 2,843,696; 2,059,669; 2,055,324; 2,002,168; 1,966,525; 1,889,481; 1,792,721; 1,770,241; 1,723,825; 1,683,007; 1,533,011;

Japan Design Patents No. 985,985-1; 985,985; 947,552; 945,436-1; 945,436; 1,106,089; 1,077,598; 1,072,598; 1,060,414; 1,002,123;

Korea Patents No. 76,310; 42,639; 283,770; 181,180;

Korea Design Patents No. 209,896; 209,895;

Mexico Patent No. 180,148;

Singapore Patents No. 663/90; 134/87;

Taiwan Patents No. 78,726; 66,975; 65,380; 28,275;

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How To Obtain Warranty Service

A copy of the Vari-Lite, Inc. Limited Warranty was included in the shipping package for this VARI✳LITE® product.

To obtain warranty service, please contact customer service at 1-877-VARI-LITE (1-877-827-4548) or customerservice@vlint.com and request a Return Material Authorization (RMA) for warranty service. You need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period.

Once you obtain the RMA, pack the product in its original packing material along with a copy of your invoice (if available) and write the RMA number legibly on or near the shipping address label. Return the unit, freight prepaid to:

Vari-Lite, Inc.
201 Regal Row
Dallas, TX 75247
Attention: Warranty Service

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

Compliance Notice

FCC This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite system, service, and safety guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

CE

Declaration of Conformity

We declare, under our sole responsibility, that this product complies with the relevant clauses of the following standards and harmonized documents:

Safety

EN 60950: 1999 Safety Standard for Information Technology Equipment

EMC

EN55022A: 1998 Radiated and Conducted Emissions
EN50082-1: 1997 Generic Immunity Standard

We certify that VARI✳LITE products conform to the protection requirements of European council directives: 73/23/EEC (LVD) and 89/336/EEC (EMC)

Safety Notice

It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:

CAUTION advising of potential damage to product.

WARNING advising of potential injury or death to persons.

GENERAL INFORMATION PERTAINING TO PROTECTION AGAINST FIRE AND ELECTRICAL SHOCK.

WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST FIRE

1. Replace fuses with same type and rating only.

WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK

1. VARI✳LITE® control consoles are designed for dry locations only. Exposure to rain or moisture may damage the console.
2. Disconnect power before servicing any VARI✳LITE® equipment.
3. Servicing to be performed by qualified personnel only.

WARNING:
RF INTERFERENCE

1. This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.

Sicherheitshinweise

Es ist äußerst wichtig, ALLE Sicherheitsinformationen und -hinweise in diesem Handbuch und dem beiliegenden Informationsmaterial zu lesen, bevor Sie die hierin beschriebenen Produkte installieren bzw. bedienen. Halten Sie bei der Installation und dem Einsatz dieses Produkts alle Warnhinweise und Vorsichtsmaßnahmen ein.

Folgende Sicherheitssymbole werden in diesem Handbuch verwendet:

VORSICHT - weist auf möglichen Produktschaden hin.

WARNUNG - weist auf mögliche Körperverletzung und Lebensbedrohung hin.

NACHSTEHEND FINDEN SIE ALLGEMEINE HINWEISE ÜBER SICHERHEITSVORKEHRUNGEN GEGEN FEUER UND ELEKTROSCHOCK.

WARNUNG:
HINWEISE ZUM FEUERSCHUTZ

1. Ersetzen Sie Sicherungen nur mit Sicherungen vom gleichen Typ und gleicher Stärke.

WARNUNG:
HINWEISE ZUM SCHUTZ GEGEN ELEKTROSCHOCK

1. VARI✻LITE®-Konsole eignen sich ausschließlich für trockene Standorte. Regen oder Feuchtigkeit können die Konsole beschädigen.
2. Unterbrechen Sie die Stromzufuhr, bevor Sie mit der Arbeit an VARI✻LITE®-Geräten beginnen.
3. Die Geräte sollten nur von qualifiziertem Personal gewartet werden.

WARNUNG:
HF-INTERFERENZ

1. Es handelt sich um ein Produkt der Klasse A. In einer Wohnumgebung kann das Produkt Hochfrequenzstörungen verursachen. In diesem Fall müssen eventuell geeignete Maßnahmen getroffen werden.

Notes de sécurité

Avant de procéder à l'installation des produits décrits dans ce guide et de les mettre en marche, il est extrêmement important de lire TOUS les renseignements et TOUTES les directives de sécurité contenues dans ce guide ainsi que toute documentation jointe. Tenir compte de tous les avertissements et suivre toutes les précautions pendant l'installation et l'utilisation de cet appareil.

Les symboles de sécurité utilisés dans ce guide sont les suivants :

ATTENTION Ce symbole annonce que l'appareil risque d'être endommagé.

AVERTISSEMENT Ce symbole annonce qu'il y a risque d'accident grave ou même fatal.

CETTE SECTION CONTIENT DES INFORMATIONS GÉNÉRALES POUR SE PROTÉGER CONTRE LES INCENDIES ET LES DÉCHARGES ÉLECTRIQUES :

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES INCENDIES

1. Ne remplacer les fusibles qu'avec ceux du même type, ayant les mêmes caractéristiques.

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES

1. Les consoles de commande VARI✻LITE® sont conçues pour une utilisation au sec uniquement. Une exposition à la pluie et à l'humidité risque d'endommager la console.
2. Débrancher l'appareil avant de procéder à la révision de tout matériel VARI✻LITE®.
3. Les révisions doivent être effectuées uniquement par des personnes qualifiées.

AVERTISSEMENT:
INTERFÉRENCE RF

1. Cet appareil est de Classe A. Dans un environnement domestique, cet appareil peut causer des interférences radio, et si c'est le cas, l'utilisateur peut avoir à prendre des mesures adéquates.

Aviso sobre Seguridad

Es muy importante leer TODA la información e instrucciones sobre seguridad que se indica en este manual así como en los documentos adjuntos antes de instalar y operar los productos descritos. Se debe prestar atención a todos los avisos y advertencias durante la instalación y uso de este producto.

Los símbolos de seguridad usados en este manual son los siguientes:

CUIDADO, indica posibles daños al producto.

ADVERTENCIA, indica posibles lesiones o muerte a las personas.

LA INFORMACIÓN GENERAL RELACIONADA A LA PROTECCIÓN CONTRA INCENDIO Y GOLPES DE CORRIENTE ELÉCTRICA:

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA INCENDIO

1. Reemplaze los fusibles solamente con los del mismo tipo y especificación.

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA CHOQUE ELÉCTRICO

1. Los controles de la consola de VARI✻LITE® están diseñados solamente para lugares secos. La exposición a la lluvia o humedad pueden dañar la consola.
2. Desconecte la energía antes de dar servicio a cualquier equipo de VARI✻LITE®.
3. El servicio debe ser realizado solamente por personal calificado.

ADVERTENCIA:
INTERFERENCIA RF

1. Este es un producto de Clase A. En el ambiente de la casa este producto puede ocasionar radiointerferencia, en cuyo caso, el usuario debe tomar las medidas adecuadas.

安全性に関する注意事項

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本マニュアルでは、以下の安全マークを使用しています。

注意：製品に損傷を与える危険性があります。

警告：人身事故につながる危険性があります。

火災防止および感電防止についての一般的な注意事項

警告：
火災の発生を防ぐためのヒント

1. ヒューズを交換する場合は、同じヒューズ（同じ種類、同じクラス）を使用してください。

警告：
感電を防ぐためのヒント

1. VARI*LITE® 制御装置は、乾燥した環境で使用するように設計されています。雨で濡れる場所や湿気の多い場所に取り付けると、制御装置が傷むことがあります。
2. VARI*LITE® 照明器具を修理点検する場合は、必ず先に電源を切ってください。
3. 照明器具の修理点検は、資格を持つ技師のみが行うようにしてください。

警告：
RF 干渉

1. 本製品は Class A に分類されます。本製品は、家庭環境において無線干渉を起こす可能性があります。その場合、使用者は適切な処置を取らなければならないことがあります。

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Notes

Introduction

About This Manual

This manual provides necessary information regarding product safety, installation, and operation for VARI✻LITE® Virtuoso™ and Virtuoso™ DX consoles. It contains instructions for operating Virtuoso console software version 4.2.

WARNING: It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

Additional Documentation

Service and System Installation

Service manuals for extended maintenance of the consoles and a system installation manual for Virtuoso systems are available in both printed and electronic (PDF) formats.

- Virtuoso™ Console Service Manual (02.9651.0010)
- Virtuoso™ DX Console Service Manual (02.9668.0010)
- Virtuoso™ System Installation and Checkout Manual (02.3004.0400)
- Virtuoso™ Node User's Guide (02.9669.0001)

Reference

The following VARI✻LITE reference guide is available in electronic (PDF) format from the Support pages at www.vari-lite.com:

- Series 200™ DMX Control Reference Guide (02.3004.0202)

For more information on DMX512 systems, refer to the following document available from United States Institute for Theatre Technology, Inc. (USITT).

- Digital Data Transmission Standard for Dimmers & Controllers plus AMX 192 Analog Multiplex Data Transmission Standard for Dimmers & Controllers. (A copy of Recommended Practice for DMX512 is included.)
  USITT Inc.
  Suite 5A, 10 West 19th St.
  New York, NY 10011-4206 USA
  Tel : (212) 924 - 9088 Fax : (212) 924 - 9343
  www.usitt.org

Customer Service

Our Goal

At Vari-Lite, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Vari-Lite customer. Whether your needs are telephone/troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

How to Reach Us

For assistance in your area, call the dealer from which your product(s) were purchased.

or

Contact an Authorized Service Center.

or

Contact the Vari-Lite Customer Service Department, 9am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548)
fax: 214.630.5867
email: customerservice@vari-lite.com

Additional Resources

For additional resources and documentation, please visit our website at: www.vari-lite.com and follow the Support link.

Obtaining Additional DMX Profiles

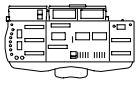
DMX fixtures are controlled by the console using a *profile*. The profile includes the number of DMX channels required to operate the fixture and parameter mapping for console control. A wide range of profiles are included with the console software, however, in the event you require additional profiles these can be found on the Vari-Lite website at: www.vari-lite.com/VIPA/. Follow the instructions at this site for downloading. To request a profile not provided on the website, please call 1-877-VARI-LITE (1-877-827-4548) or email profiles@vari-lite.com. Please be prepared to provide the necessary information to generate the profile as required. (Profiles are covered in "Updating Profiles" on page 294.)

Text Conventions

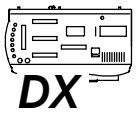
The following styles and meanings are used throughout this manual:

Arial Font	Software display buttons and menu selections. Example: Click on SAVE.
[Button]	Panel hard button. Example: Press [Cue].
[Button 1] / [Button 2]	Button combination sequence. Press and hold button 1while pressing button 2.
<Button>	Optional button press. Example: Press <Cue>
Soft	Touch screen soft button.
RETURN	Macintosh® keyboard key.

The following icons are used to distinguish instructions which apply to the specific console versions:



Virtuoso Console



Virtuoso DX Console

Notes

CHAPTER 1.

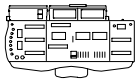
Descriptions and Overview

This chapter provides an overview of console features, accessories, and operations.

- **Virtuoso Console**
- **Virtuoso DX Console**
- **Operation Overview**

Virtuoso Console

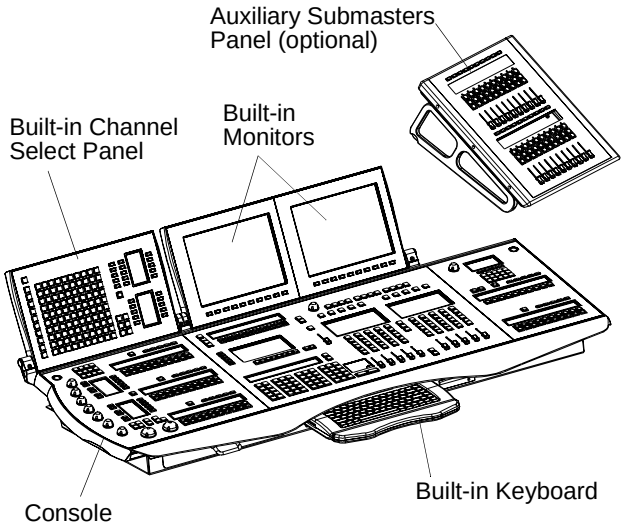
Features



The Virtuoso console is a control desk capable of operating VARI✳LITE luminaires, DMX moving lights, and conventional lights. The console utilizes Virtuoso protocol and/or DMX512 (via an associated Network Interface unit) to control the fixtures.

Virtuoso console features:

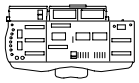
- Control of 2,000 multiple parameter luminaires.
- 2,000-10,000 cues per fixture (luminaire dependent).
- 1,000 presets.
- 1,000 effects.
- 100 beam selects.
- 300 color selects.
- 1000 group selects.
- 1,000 board cues.
- 1,000 macros.
- 1,200 snapshots.
- 30 submasters (in 3 pages).
- Zip® drive for show file backup.



- CD ROM drive for software upgrades.
- Built-in hard drive for show file storage.
- Up to five Virtuoso consoles may be linked together to provide universal shared or independent localized control of a single system.
- Fiber optic or Ethernet data link to system.
- Two built-in monitor displays with ports for two additional VGA monitors. (All monitors form one seamless, virtual monitor.)
- Optional Auxiliary Submasters panel, which provides 20 additional submaster faders to be added to the 10 submasters faders located on the Virtuoso console.
- Utilizes bi-directional protocol for VL2000™ luminaires.

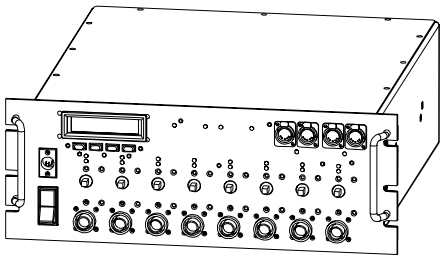
Components

Console



The Virtuoso console itself contains buttons, keypads, encoders, faders, and displays for the purpose of controlling luminaires. A built-in Macintosh CPU, keyboard, trackpad and monitors allows integration of menu and window based commands.

Network Interface (NIF) Unit

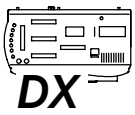


The Series 300™ Network Interface unit (NIF) is used in association with the Virtuoso console to control a lighting system. Power for both the console(s) and Series 300 luminaires (except lamp power) is distributed from the NIF unit. All data communication from the console to luminaires passes through the NIF unit for processing and distribution into Virtuoso protocol and DMX512 protocol. Although a single NIF unit can support two Virtuoso consoles, a single console can control lighting systems utilizing up to 99 NIF units when arranged in a data loop.

Note: For more detailed installation and operation instructions for the NIF unit, refer to the Virtuoso System Installation and Checkout Manual (02.3004.0400)

Virtuoso DX Console

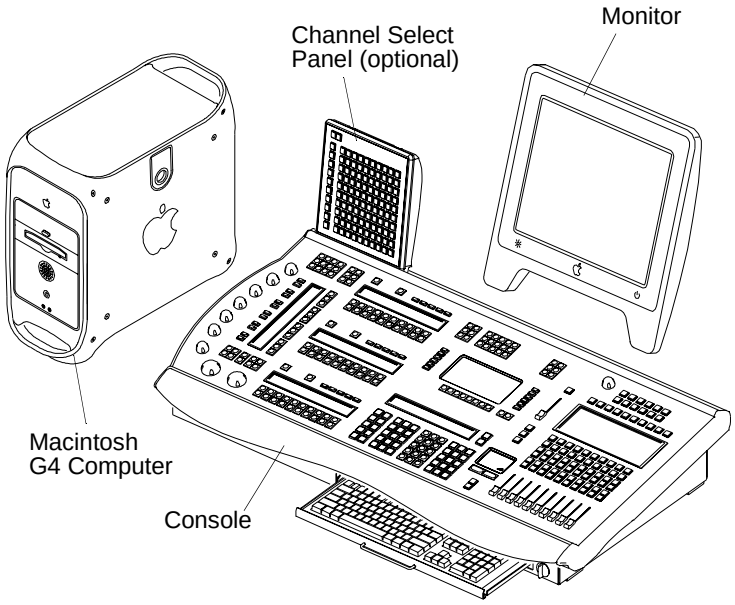
Features



The Virtuoso DX console is a control desk capable of operating VARI✻LITE luminaires, DMX moving lights, and conventional lights. The console utilizes Virtuoso protocol and/or DMX512 to control the fixtures.

Virtuoso DX console features:

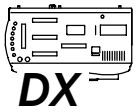
- Control of 2,000 multiple parameter luminaires.
- 2,000-10,000 cues per fixture (luminaire dependent).
- 1,000 presets.
- 1,000 effects.
- 100 beam selects.
- 300 color selects.
- 1000 group selects.
- 1,000 board cues.
- 1,000 macros.
- 1,200 snapshots.
- 30 submasters (in 3 pages).
- 26 DMX universes.



- Up to five Virtuoso consoles may be linked together to provide universal shared or independent localized control of a single system.
- It includes eight integrated DMX universes and supports up to 26 DMX universes with additional equipment.
- Supports an outboard Channel Select panel which allows instantaneous selection and visible display of up to 2000 channels. (This component is optional and is not required for console operation.)
- Utilizes bi-directional protocol for VL2000 luminaires.

Components

Console



The Virtuoso DX console itself contains buttons, keypads, encoders, faders, and displays for the purpose of controlling luminaires.

Macintosh Computer

An Apple® Macintosh® G4 computer provides the operating system CPU, supports the display monitor(s), and provides a removable backup medium (such as a Zip® drive) and CD or DVD ROM. The removable medium is primarily for importing, exporting, and backing up show file data, while the CD/DVD ROM drive is primarily for upgrading Virtuoso console software.

Minimum requirements for Macintosh computer system:

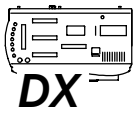
- Macintosh G4 OS9 or greater
- A monitor *
- Removable backup medium (Zip drive, etc.)
- CD/DVD-ROM

* Additional monitors can be supported by installing additional video cards. Please call 1-877-VARI-LITE for most recent list of compatible video cards.

Note: Some Macintosh monitors shipped with the Virtuoso DX console have been modified so that their power button is disabled. It has been discovered that there is a design defect for this product where the button can be remotely activated by cellular phone activity, resulting in shutdown of the Macintosh computer system during console operation. The following sticker applied to the back of the monitor indicates whether the power button has been disabled:

THE POWER BUTTON ON THIS MONITOR HAS BEEN DISABLED
SEE VIRTUOSO DX USERS MANUAL FOR DETAILS

Virtuoso DX Console Accessories List



The following accessories and/or replacement items can be ordered directly from Vari-Lite. (Please order by Vari-Lite part number.)

Vari-Lite Part No.	Accessory
10.9668.0130	CONSOLE DUST COVER
20.9625.0142	CONSOLE ROAD CASE
20.9625.0143	MACINTOSH COMPUTER ROAD CASE
21.9668.0005	CHANNEL SELECT PANEL
52.6616.0780	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG
71.5001.0003	GOOSENECK HI-INTENSITY DESK LAMP
call for details	MACINTOSH MONITOR
call for details	AUXILIARY MONITOR VIDEO CARD

The following accessories can be purchased from Vari-Lite or on the open market as required.

Manufacturer	Part No.	Accessory
Switchcraft	780	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG
Digi-Key	SC1057-ND	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG

Operation Overview

Virtuoso Application

The same Virtuoso application (software operating system) is used in both the Virtuoso and Virtuoso DX consoles. As a result, the Macintosh-based windows and menus operate identically. The only operational difference between these two consoles is the hardware configuration of the desk itself. For example, if the Channel Select panel (which is standard for the Virtuoso console) is not available on your Virtuoso DX console, channels can be selected using another method such as the Macintosh Channel Select window.

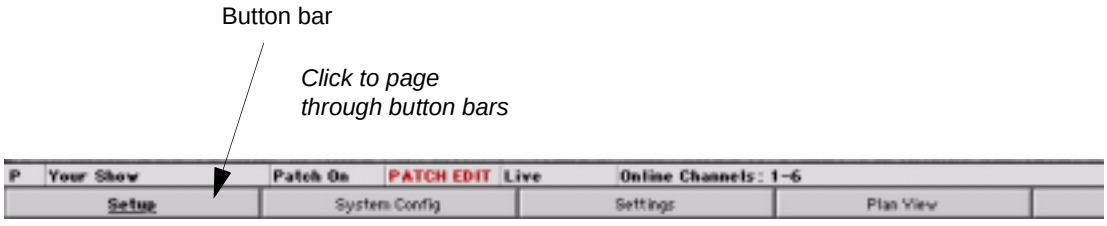
For the most part however, the consoles are operated very similarly and the operational instructions provided in this manual will apply to all versions unless otherwise noted.

Window Interaction

Menus and Button Bar

The Virtuoso application functions just as any standard Macintosh application.

A menu bar provides access to file management commands and Virtuoso system windows. Virtuoso windows can also be accessed using the button bar at the bottom of each installed monitor screen. Clicking the soft button with the cursor will open the window (in the event it is closed), bring it to the front (if already open, but hidden), or close it (if in the front). Clicking the far-left button (with the underlined name) will page through the button bars to provide access to different Virtuoso windows and navigation controls.

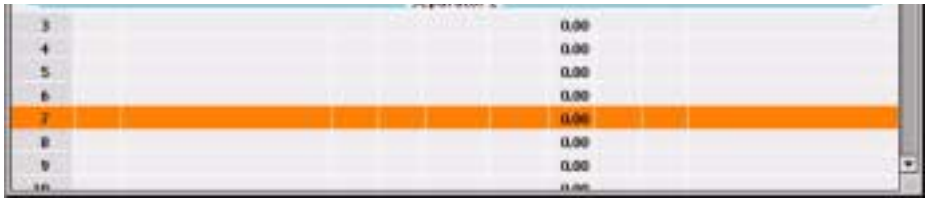


Entering/Editing Window Data

The Macintosh keyboard can be used to type in alpha-numeric entries or select cells and fields in the windows.

- Pressing ENTER closes the entry field.
- Pressing RETURN automatically selects the next cell down in the column for editing.
- Pressing SHIFT / RETURN automatically selects the next cell up in the column for editing.
- Pressing TAB selects the next cell or field in a row.
- Pressing SHIFT / TAB selects the previous cell or field in a row.
- Use arrow buttons to move cursor through fields.

The trackpad can be used to manipulate the cursor for field/cell editing, clicking radio buttons, accessing pop-up menus, moving windows, or closing windows.



Closing Windows

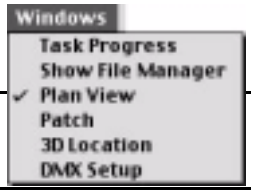
As with any Macintosh application, windows can be closed by clicking the box in their left-hand corner. Windows can also be closed from the File menu by selecting Close Window.

Locating Hidden Windows

When windows are open but hidden, use the Windows menu to locate and bring to the front.

To bring window to front:

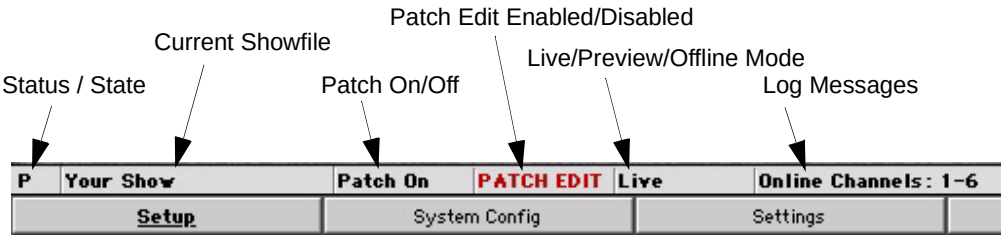
- At menu bar select the Windows menu, click on any window to make it the front active widow.



Note: A checkmark will show which window is currently the top active window.

Status Indicator Bar

Several indicators available at the lower portion of the screen provide an indication of current console status and operations.



Status/State

Indicates the console state or status in relationship to communication between the Macintosh CPU and Console Interface Card (CIC). The following indications may be displayed:

- P - Primary console.
- PP - Primary Prep: where the Mac opens the show file and initializes the CIC for downloads.
- PL - Primary Load: where the show file is loaded to the CIC and Mac.
- PS - Primary Select: where a show file back up is being made or other action is occurring where the CIC is not immediately available for changes.
- U - Unknown state: where the CIC is no longer responding.
- ** - No CIC reply: where the CIC is not available or ready.
- NL - Net Listen: where the console checks for other active consoles on the network.
- ML - Mac Listen: where the CIC checks for a local Mac. (Not usually displayed.)
- S - Secondary console.
- SP - Secondary Prep: where the secondary console syncs the show file and saves it to disk.
- SL - Secondary Load: where the secondary console loads the show file to the CIC.
- WP - Waiting for Primary: appears while the Waiting For Primary Dialog is open.

Current Showfile

Displays the name of the currently open show file.

Patch On/Off

Indicates whether patch is turned on or off. (Patch On/Off will be covered in the next chapter.)

Patch Edit Enabled/Disabled

"Patch Edit" is displayed when patch is enabled from the Patch menu.

The box is blank when patch editing is disabled from the Patch menu.

Live/Preview/Offline Mode

Indicates whether the console is in the Live, Preview or Offline mode.

The Live Mode is used for live editing. While the [Live] button is selected, any manual control actions or event recalls (cues, effects, dynamic states, etc.) will be executed, in real time, on stage.

The Preview Mode is used for preview editing. While the [Preview] button is selected, any manual control actions are stored to the appropriate luminaires, but are not executed on stage.

Refer to "Live/Preview Mode" on page 279 for complete instructions on these modes.

The Offline Mode allows preprogramming without having to connect to a system. Refer to "Off-Line Programming" on page 266.

Log Messages

Messages highlighting in the Log Message box are the same messages collected in the Console Log (refer to "Console Log" on page 290).

Arrange Monitors

The Arrange Monitors option arranges the monitors from left to right according to the PCI order, sets size of monitors to 800x600 and sets the start up monitor and menu bar for Monitor 1.

Select Arrange Monitors from the menu to activate.

CHAPTER 2.

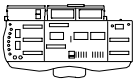
Installation

This chapter provides instructions for installing a Virtuoso console and connecting additional components.

- **Virtuoso Console**
- **Virtuoso DX Console**

Virtuoso Console

Overview



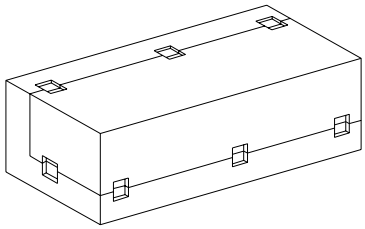
The following section provides instructions for connecting power, data and additional components to the Virtuoso console. These instructions pertain only to the console itself and do not provide details regarding the entire system hook-up. For more detailed information on Virtuoso systems, refer to the Virtuoso System Installation and Checkout Manual (02.3004.0400).

Unpacking Console Road Case

CAUTION: The Virtuoso console and case weighs approximately 400 lbs (182 kg) and requires a minimum of two people for unpacking.

Unpack console case:

Step 1. Place console case on its side (as shown).

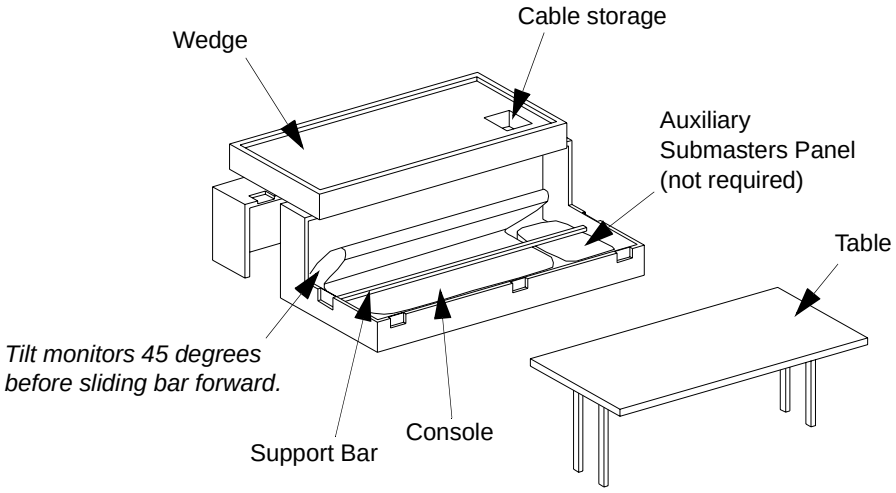


Step 2. Unlatch all latches.

Step 3. Remove case lid and set aside.

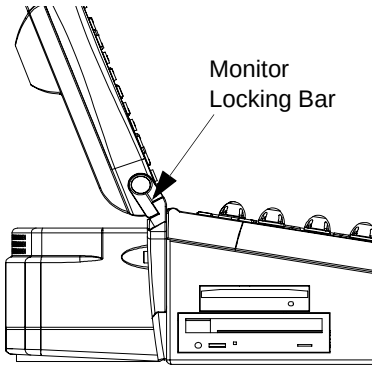
Step 4. Pull table partway out of case, raise legs, and lock into place.

Step 5. Remove table and set upright on flat surface. Ensure that legs are properly locked and will support weight of console.



Step 6. Remove wedge and set aside.

Step 7. At console, loosen monitors by flipping locking bar and reposition monitors at about a 45 degree angle, retightening locking bars.



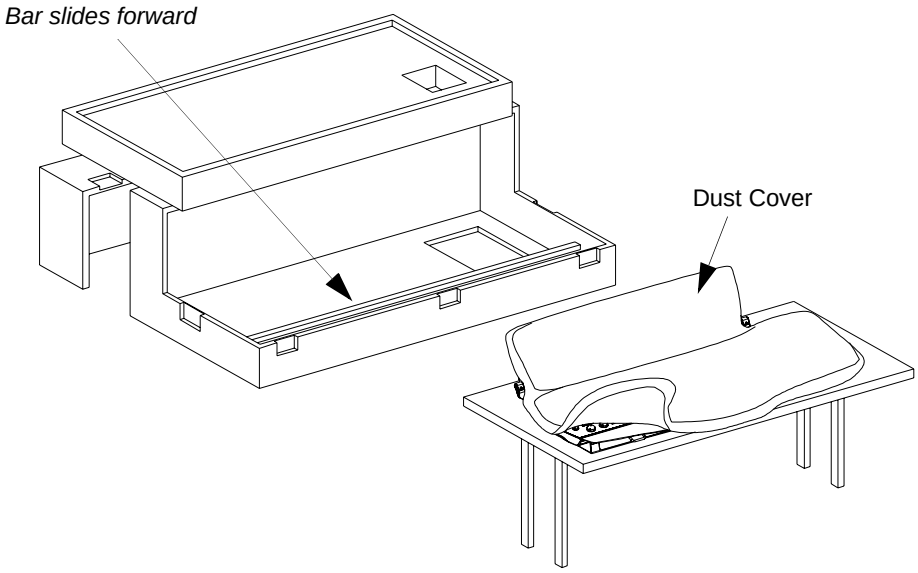
Step 8. Slide support bar to front of case.

Step 9. If included, remove auxiliary submasters panel and set aside.

Step 10. Using at least two people, remove console from case and place securely on table (removing console will require one person to stand in case in order to lift properly).

Step 11. Remove dust cover.

Note: Recover console when powered down and not in use.

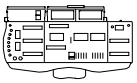


Step 12. Remove cables from wedge compartment and place wedge back inside case.

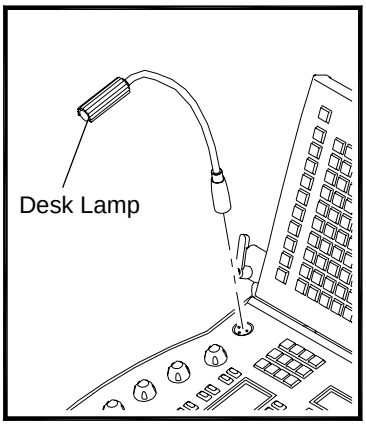
Step 13. Re-attach case lid and set case aside.

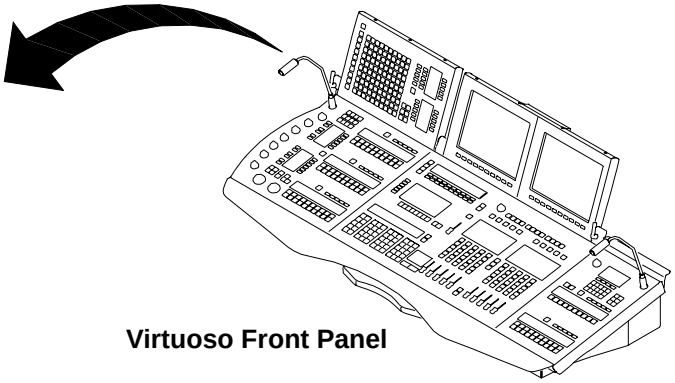
Step 14. Re-adjust console monitors as desired.

Installing Desk Lamps



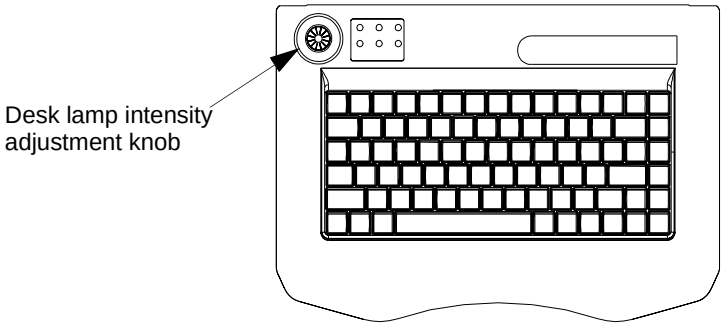
Install desk lamps at console front panel.





Virtuoso Front Panel

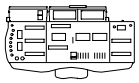
The intensity of the desk lamps can be adjusted from the console's pull-out keyboard.



Pull-Out Keyboard Backlighting Adjustment

The intensity of the pull-out keyboard backlighting can be adjusted by holding down FN, while pressing (up) or (down) as required.

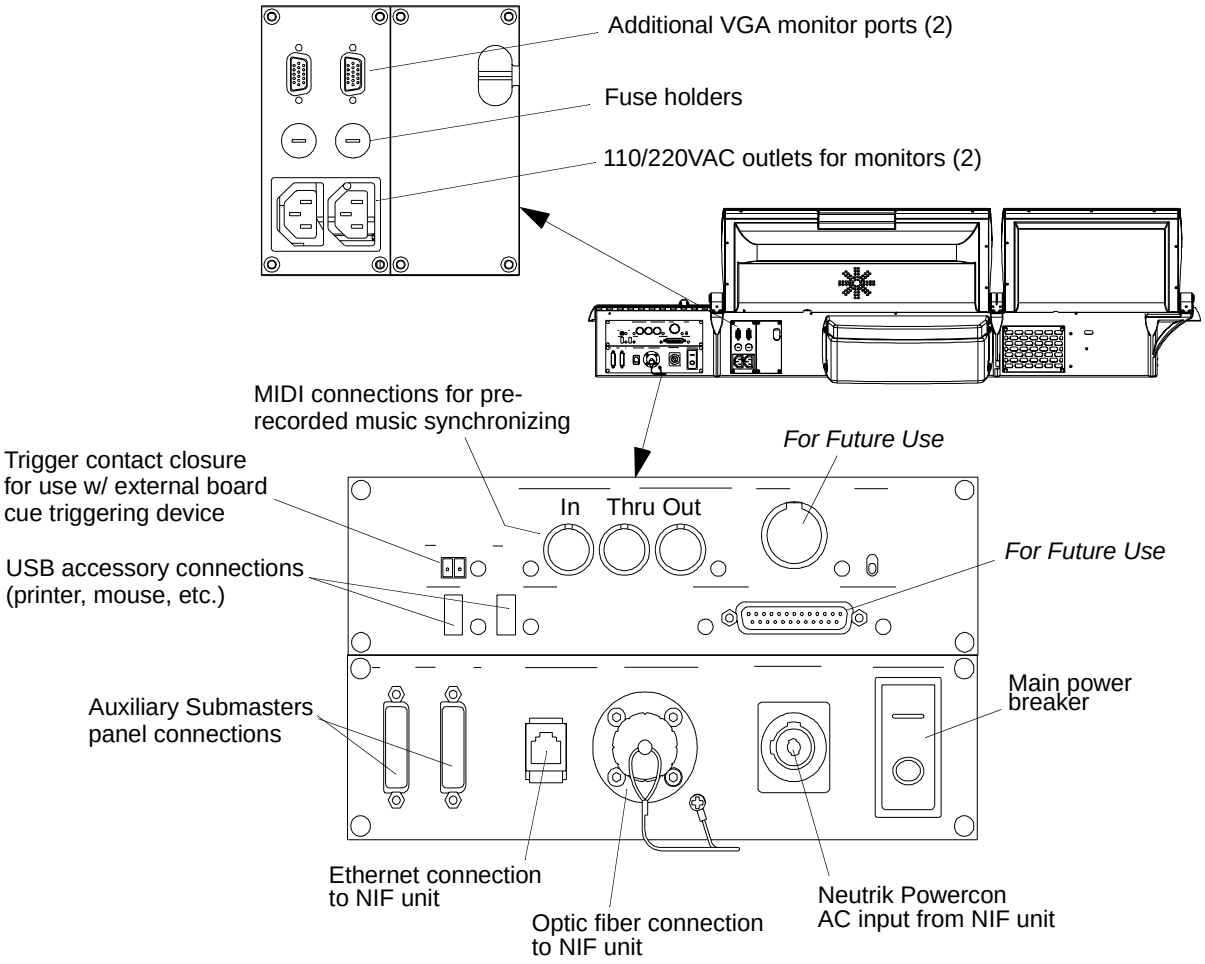
Connecting Optional Components



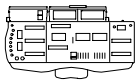
Connectors at the console's rear panel allow connection of additional monitors, USB peripherals, auxiliary submasters panel, MIDI devices, and a board cue switch closure trigger device.

Note: Refer to "Input Options" on page 305 for information on constructing a switch closure device.

CAUTION: Monitor power outlets are not always 110VAC. Outlets supply 208VAC in U.S. on a Delta system.


Additional VGA monitor ports (2)
Fuse holders
110/220VAC outlets for monitors (2)
MIDI connections for pre-recorded music synchronizing
For Future Use
Trigger contact closure for use w/ external board cue triggering device
In
Thru Out
USB accessory connections (printer, mouse, etc.)
For Future Use
Main power breaker
Auxiliary Submasters panel connections
Ethernet connection to NIF unit
Optic fiber connection to NIF unit
Neutrik Powercon AC input from NIF unit

Connecting To System



Connectors at the console's back panel allow connection to the lighting system.

Console connections:

Step 1. At console back panel, connect fiber optic cable (to NIF unit).

Step 2. Connect Neutrik Powercon cable (from NIF unit).

Step 3. Connect Ethernet cables as required.

Step 4. Connect MIDI input cables as required.

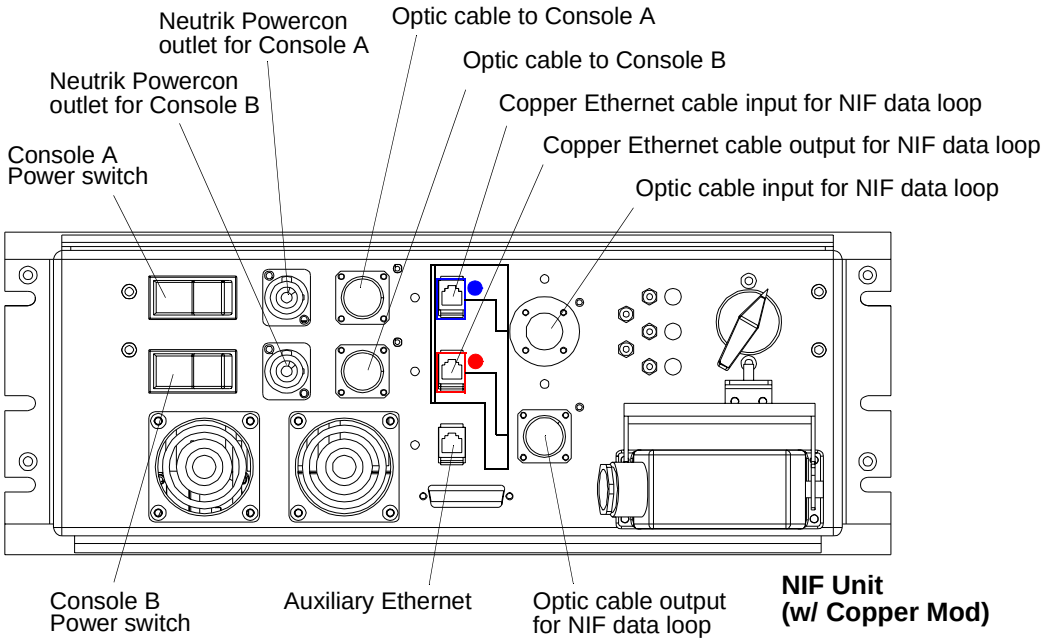
NIF unit(s) connections:

Note: (It is recommended that main console be connected to NIF inputs A and backup console be connected to a separate NIF unit.)

Step 1. Connect Neutrik Powercon cable (to console).

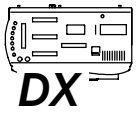
Step 2. Connect fiber optic cable (from console).

Step 3. Connect NIF data loop cables as required. These can be either optic cables or copper Ethernet cables in any combination as long as only one input and only one output is used (e.g. when a cable is plugged into the copper Ethernet input port, the corresponding optic cable input port is disabled).


Neutrik Powercon outlet for Console A
Optic cable to Console A
Optic cable to Console B
Neutrik Powercon outlet for Console B
Copper Ethernet cable input for NIF data loop
Copper Ethernet cable output for NIF data loop
Console A Power switch
Optic cable input for NIF data loop
Console B Power switch
Auxiliary Ethernet
Optic cable output for NIF data loop
NIF Unit (w/ Copper Mod)

Virtuoso DX Console

Overview

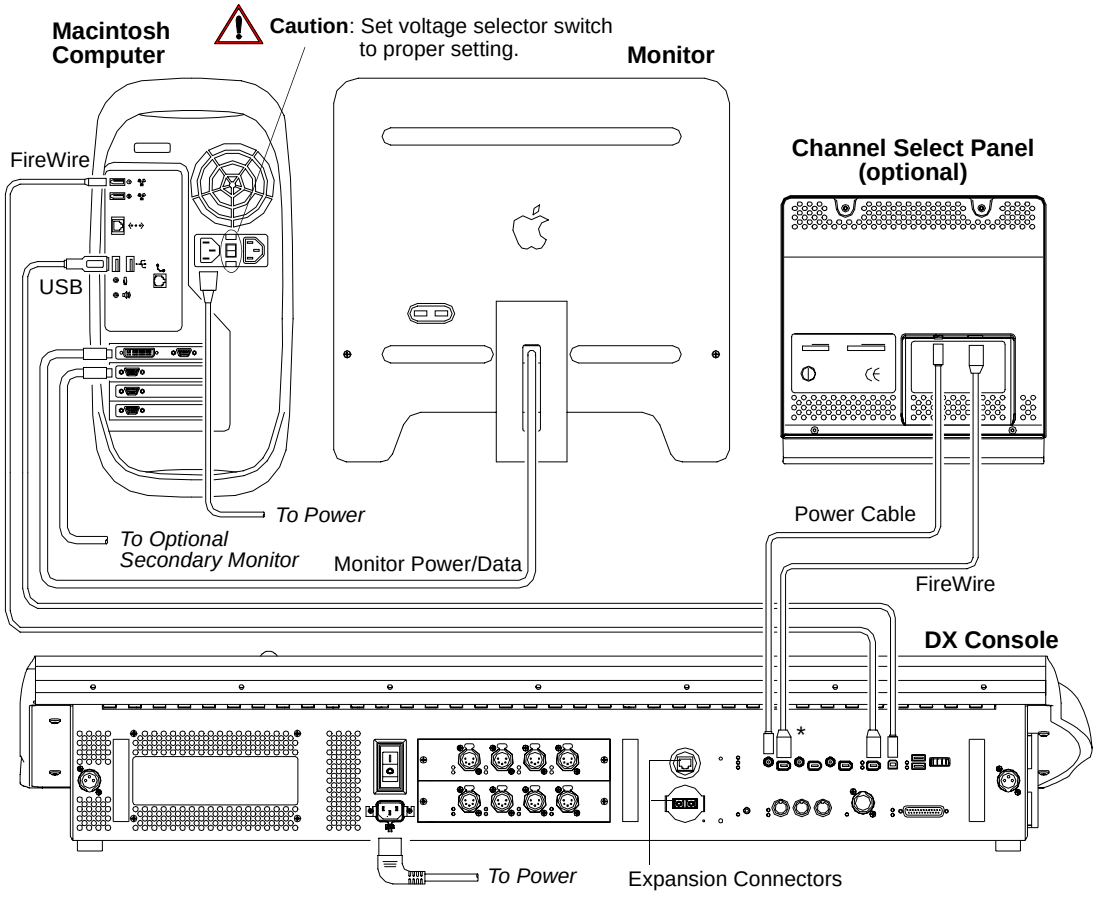


The following section provides instructions for connecting power, data and additional components to the Virtuoso DX console. These instructions pertain only to the console and associated Macintosh computer, and do not provide details regarding the entire system hook-up. For more detailed information on Virtuoso systems, refer to the Virtuoso System Installation and Checkout Manual (02.3004.0400). (For instructions on configuring multiple consoles in a standard Ethernet system, refer to "Connecting Virtuoso DX Backup in Standard Ethernet Systems" on page 264.)

Connecting Console & Computer Components

The Virtuoso DX console system will require inter-connection of the console desk and Macintosh G4 computer components.

To connect components:



* **Note**: Any of the three Aux ports can be used to connect the Channel Select panel.

Step 1. Connect power/data cable from primary monitor to first (top) monitor port at Macintosh computer. (Connect secondary monitors to additional video ports as required. Additional video cards will not be installed unless requested.)

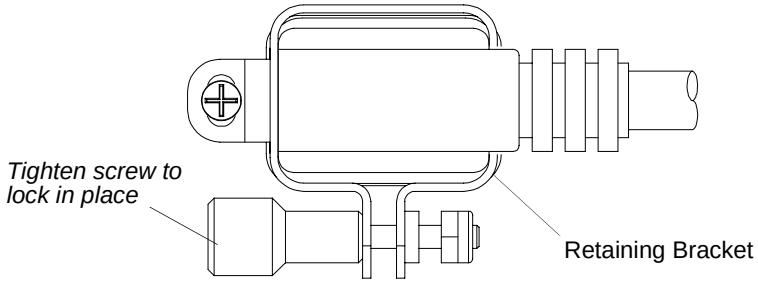
Step 2. Connect FireWire® from console CPU port to either comm port (1 or 2) at Macintosh computer.

Step 3. Connect USB cable from console USB port to either USB port (1 or 2) at Macintosh computer.

Step 4. If used, connect system comm cable (Ethernet or Fiber) to appropriate console SYSTEM COMM port.

Step 5. Connect DMX cables to DMX output connectors as required.

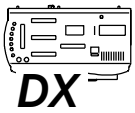
Step 6. Connect power cable to console. (Console requires: 2.0 A at 120 V 50/60 Hz *or* 1.0 A at 240 V 50/60 Hz). Lock power cable in place by tightening retaining bracket as shown.



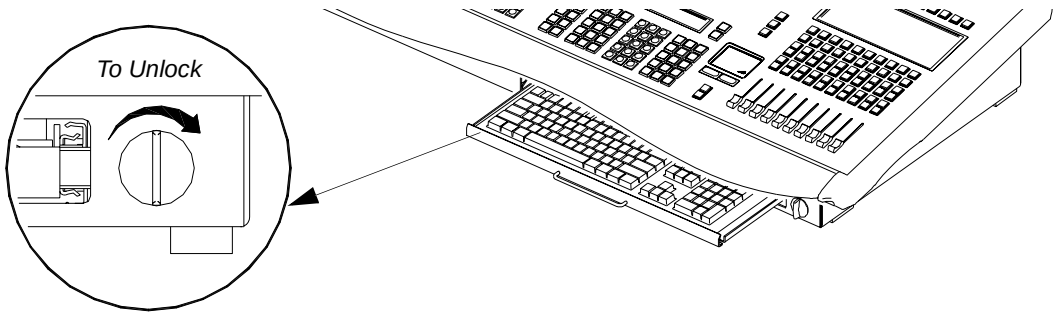
Step 7. Connect power cable to computer. Ensure that voltage selector switch on back of computer is set correctly.

Step 8. If applicable, connect Channel Select FireWire and power cables to console.

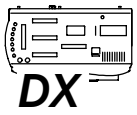
Keyboard Lock/Unlock



The pull-out drawer for the Macintosh alpha-numeric keyboard can be locked in place for transport. To unlock drawer, turn knob clockwise. (Once drawer has been pushed in, turn knob counter-clockwise to lock.)

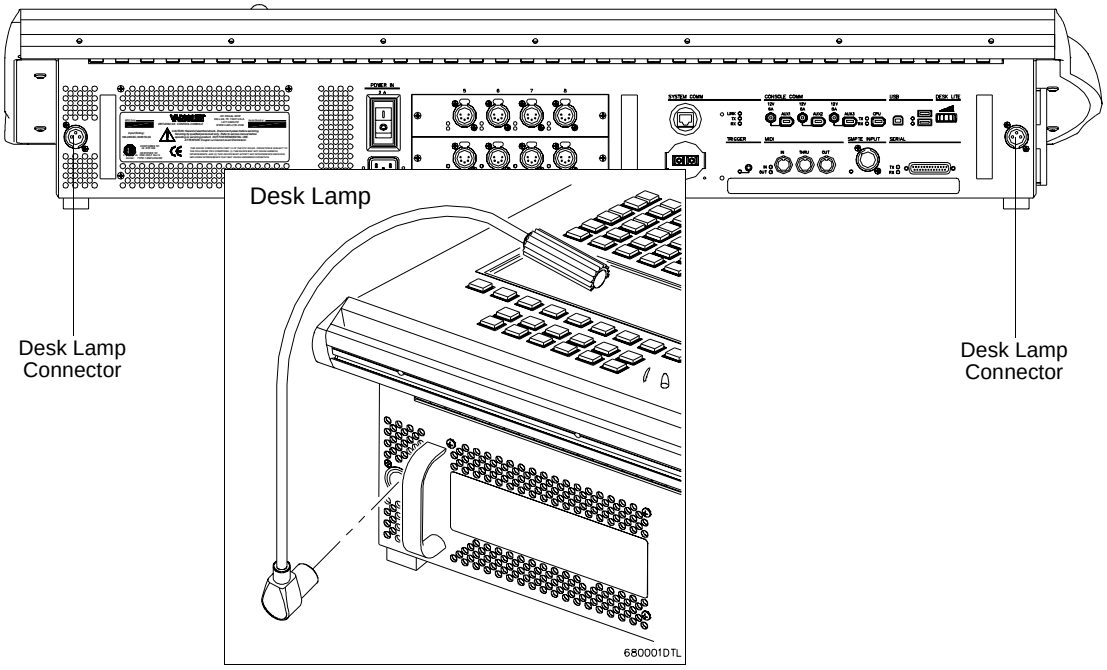


Installing Desk Lamps

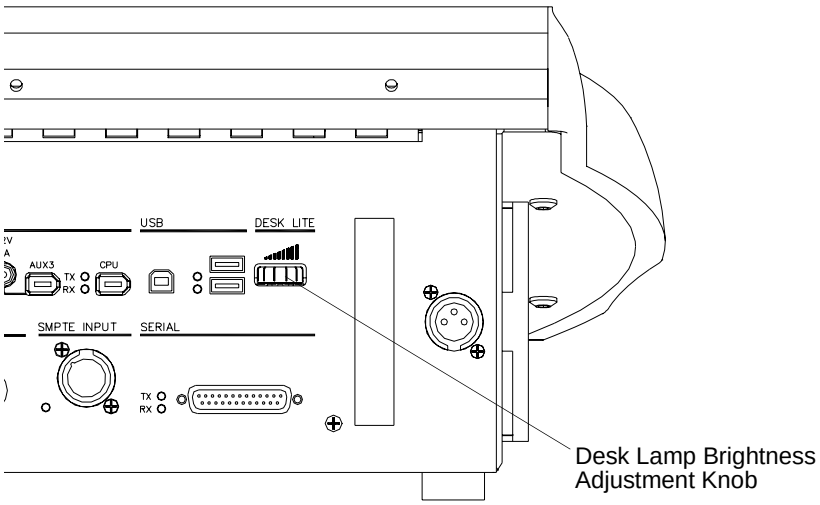


Install desk lamps at console rear panel.

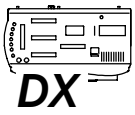
Virtuoso DX Console (Desk) Rear Panel



The brightness of the desk lamps can be adjusted at the console rear panel using the intensity knob.



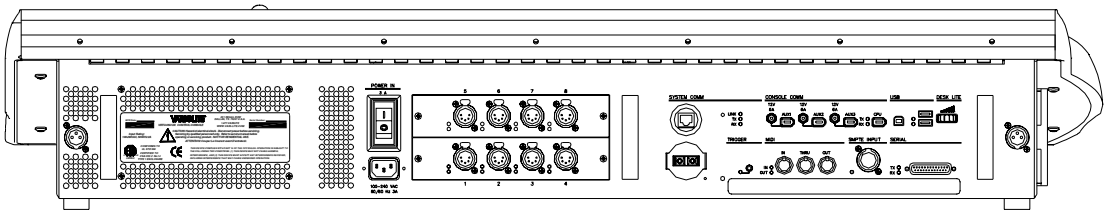
Connecting Additional Components

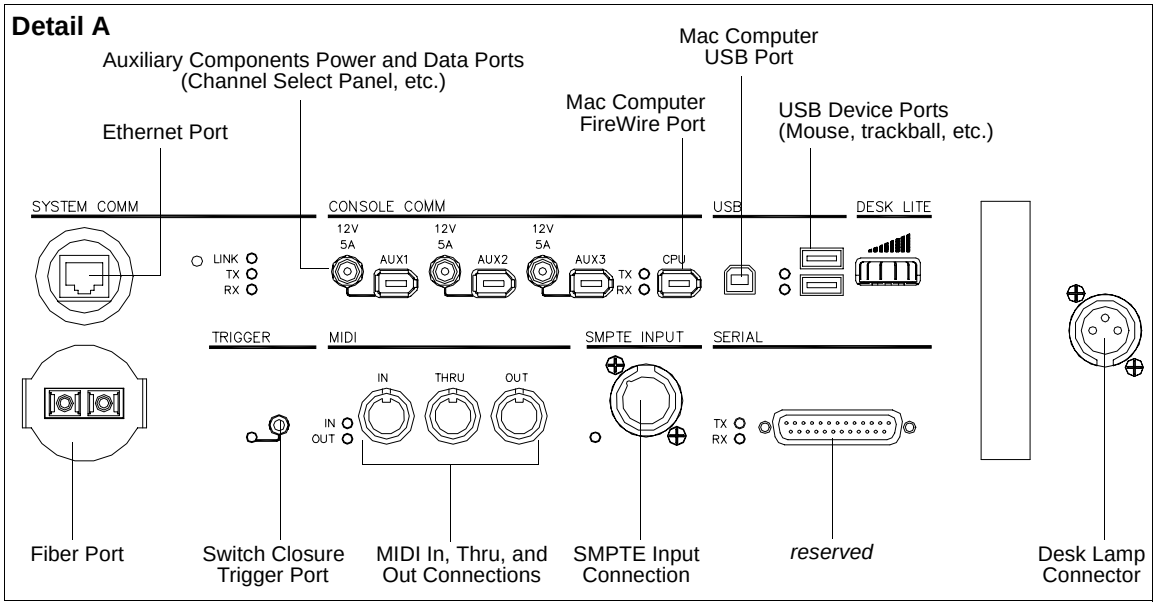


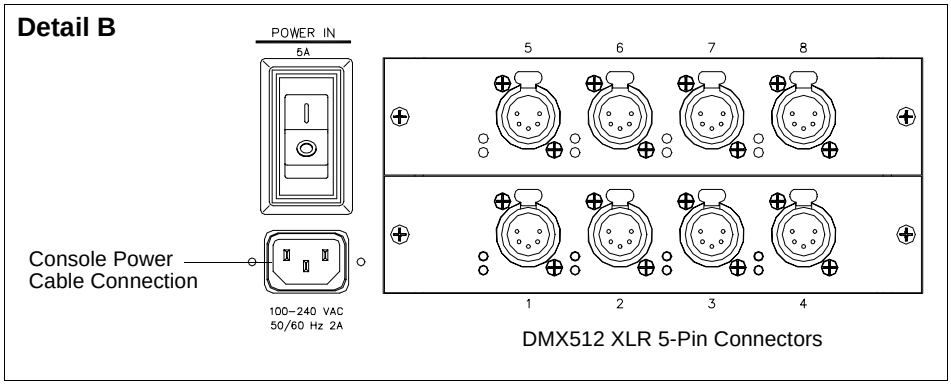
Connectors at the console's rear panel allow connection of USB peripherals, auxiliary submasters panel, MIDI devices, and a board cue switch closure trigger device.

Note: Refer to "Input Options" on page 305 for information on constructing a switch closure device.

DX Console (Desk) Rear Panel







CHAPTER 3.

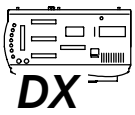
Power-Up and Patch

This chapter provides instructions for powering up and patching your system so that you will have control of the connected devices.

- **Power Up - DMX Systems (Virtuoso DX Only)**
- **Power Up - VARI*LITE Systems Using NIF Units**
- **Patch**
- **Patch Editing**

Power Up - DMX Systems (Virtuoso DX Only)

Powering Up Console



Once your Virtuoso DX console has been connected to the system, you will need to power up the console and verify status of the connected devices. In the event you are operating a Virtuoso DX console in a DMX-only system, the information displayed in the System Configuration window will be different than when operating in a VARI*LITE system.

To power up console and verify system connections:

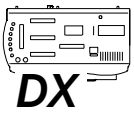
Step 1. At rear of console, set power switch to ON position.

Step 2. At Macintosh computer, press power button.

Step 3. Wait for console panels to initialize and Virtuoso application to launch. A new show file (or last open show file) will automatically open.

Step 4. Verify that your console appears in System Configuration window. Refer to "System Configuration Window" on page 27.

Powering Down Console



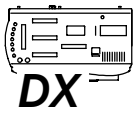
When powering down the console for storage or in the event a restart is required, use the following procedure.

To power down console:

Step 1. At Virtuoso menu, select Shut Down.

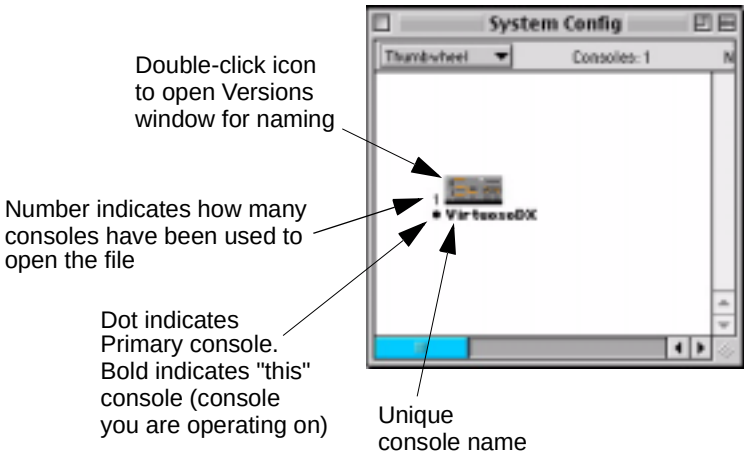
Step 2. At rear of console, set power switch to OFF position.

System Configuration Window



When in a DMX environment, the System Configuration (Config) window displays the console icon. This allows access to console naming and software version information. It also displays the offline indicator when the system is running in offline mode (refer to "Off-Line Programming" on page 266).

To open System Configuration window, select System Config at Setup menu.


System Config
Thumbwheel
Consoles: 1
VirtuosoDX
Double-click icon to open Versions window for naming
Number indicates how many consoles have been used to open the file
Dot indicates Primary console. Bold indicates "this" console (console you are operating on)
Unique console name

The window displays and keeps track of the following information:

- **Console hardware ID number**. A unique ID number will be generated for each console that opens a single show file. When a new show file is created, the console ID number will always be (1) one.

Power Up - VARI*LITE Systems Using NIF Units

Powering Up Console and NIF Units

Once your console has been connected to the system, you will need to power up the console and verify status of the connected devices. The System Configuration window displays each device's thumbwheel address, which can then be used to patch your system.

To power up console and verify system connections:

Step 1. (*Virtuoso console*) At rear of console, set power switch to ON position. Press illuminated power switch beneath console wrist rest or press keyboard power key ⏏.

(*Virtuoso DX console*) At rear of console, set power switch to ON position. At Macintosh computer, press power button.

Step 2. Wait for console panels to initialize and Virtuoso application to launch in display monitor. A new show file (or last open show file) will automatically open.

Step 3. Power up NIF unit(s) and allow boot-up process to complete.

Step 4. Power up devices connected to NIF unit(s).

Step 5. Verify that your lighting system devices appear in System Configuration window (this verifies that data communication is present). Refer to "System Configuration Window" on page 29. If any devices are not present, check system connections and power.

Step 6. Once everything is verified as online, store configuration. Refer to "Store Configuration" on page 31.

Powering Down Console

When powering down the console for storage or in the event a restart is required, use the following procedure.

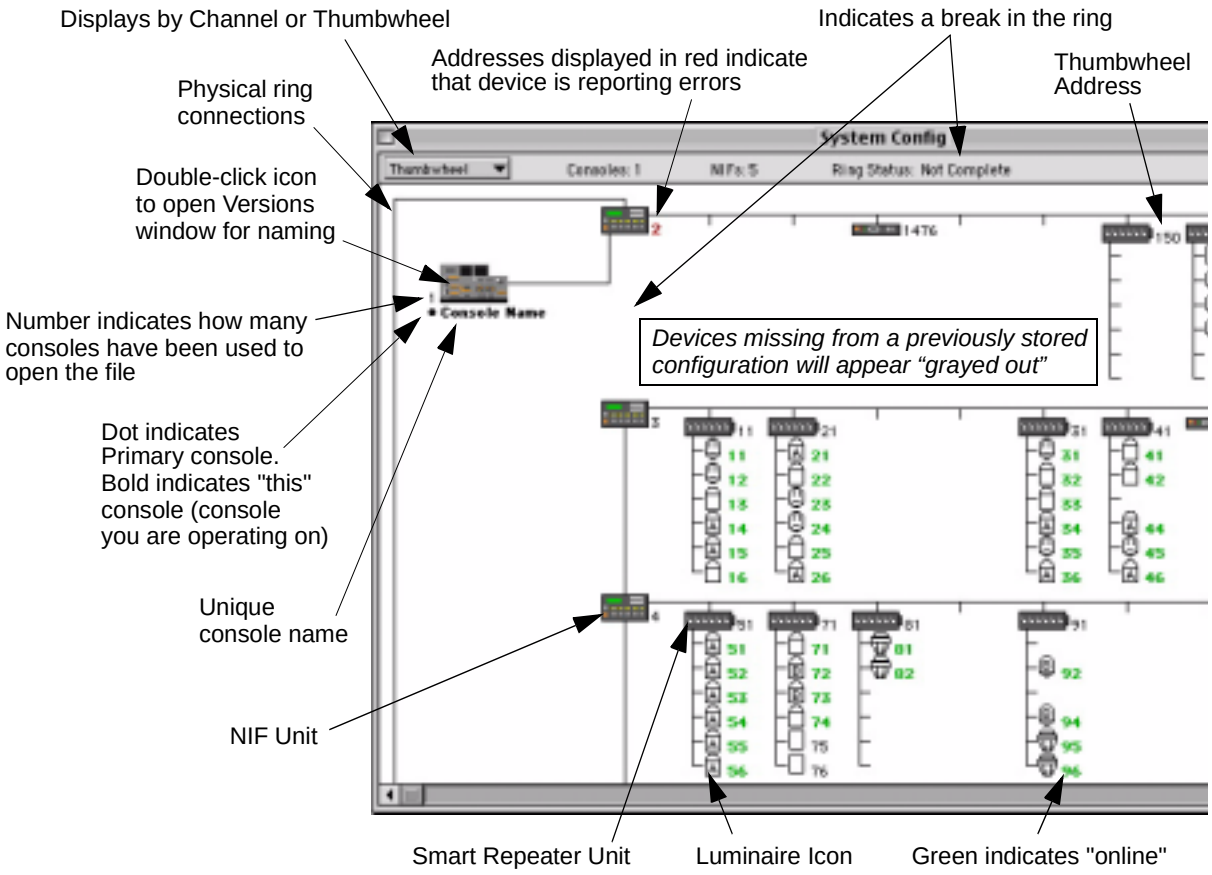
To power down console:

Step 1. At Virtuoso menu, select Shut Down.

Step 2. At rear of console, set power switch to OFF position.

System Configuration Window

When in a VARI*LITE comm environment, the System Configuration (Config) window is a representation of your physical system of consoles, NIF units, VARI*LITE Series 300 luminaires, and interface devices (i.e. UDM™ unit, SPC-36™ interface). The window is associated with a specific show file so that you can keep track of system information based on each show. To open the System Configuration window, select System Config at the Setup menu.


Displays by Channel or Thumbwheel
Indicates a break in the ring
Addresses displayed in red indicate that device is reporting errors
Thumbwheel Address
Physical ring connections
Double-click icon to open Versions window for naming
Number indicates how many consoles have been used to open the file
Dot indicates Primary console. Bold indicates "this" console (console you are operating on)
Unique console name
NIF Unit
Devices missing from a previously stored configuration will appear "grayed out"
System Config
Thumbwheel
Consoles: 1
NIFs: 5
Ring Status: Not Complete
* Console Name
Smart Repeater Unit
Luminaire Icon
Green indicates "online"

The window displays and keeps track of the following information:

- **Device Icon**. An icon which represents the specific device type is displayed in relation to its position in the system. In stored configurations, the icon may appear "grayed out" if the device is not online to indicate a problem. Double-click the device to bring up the Device Info window which shows messages for that device (also see "Error Log" on page 298).
- **Channel/Thumbwheel Address**. Channel assignment or thumbwheel address (depending on setting) is displayed for each device. This number will change from black to green as the device comes online. If the device is reporting any errors, the number will be displayed in red.

- **Console hardware ID number**. A unique ID number will be generated for each console that opens a single show file. When a new show file is created, the console ID number will always be (1) one.
- **Physical Ring**. The System Configuration window represents your system's physical "ring" of devices. The consoles and devices are displayed and connected by cabling lines in their actual order in the system. If a device is off-line or not communicating, this will be reflected by a break in the ring.
- **NIF Icon**. The NIF icon is displayed in color with an indication to show if the DMX board is not online. If the box in the right-hand corner is red, the board is not online (or not installed).

Console Naming

The console naming feature is useful when two consoles are connected to a single system - also refer to "Setting Up a Backup Console" on page 262 - to identify each console. For example, you could name the consoles "Main" and "Backup." For each console, the name is displayed in its Versions window and underneath its System Configuration icon.

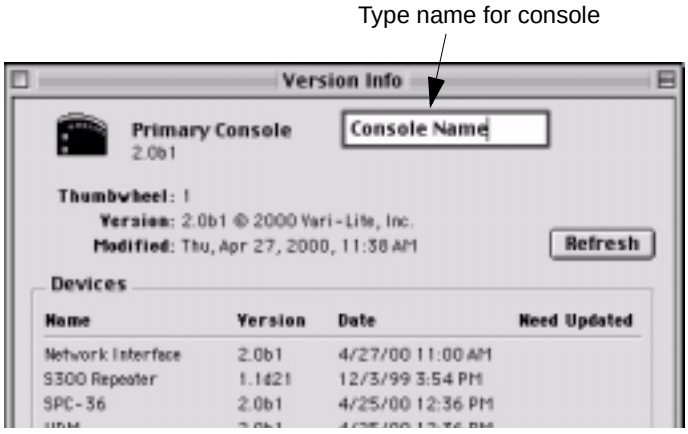
Note: A console displays its own name in bold underneath the icon. All others will appear in a regular font.

Name a console:

Step 1. At System Configuration window, double-click icon of console to be named or at Virtuoso icon menu, select Versions... Versions window will open.

Step 2. At name field, type console name.

Step 3. Close window. (Name can be changed at anytime by re-opening window and typing in new name.)



Store Configuration

Your system setup displayed in the System Configuration window can be stored for future reference. Once stored, in the event a device is not online when the system is powered up, the missing device's icon would appear "grayed out" in the window. This aids in detecting online problems by showing where an item should be if it is not reporting back.

Store a system configuration:

- At Special menu, select Store Configuration.

Clear a stored configuration:

- At Special menu, select Clear Stored Configuration.

Update Configuration

In the event a new device(s) is added to your system while the console is powered up, the system can be repolled so that the new device(s) will appear in the System Configuration window. (This is not related to the "Stored Configuration" function.)

Update a configuration:

- At Special menu, select Update Configuration.

Patch

Overview

Patching is the simplest way to manage the luminaires connected to the console. Patch associates a single control channel with a single luminaire so that you can select one channel at the console and have control of all the luminaire's parameters (intensity, color, beam, etc.). The patch operates by creating a look-up table that the console uses to translate a luminaire's associated thumbwheel address(es) into a single control channel.

DMX Fixtures

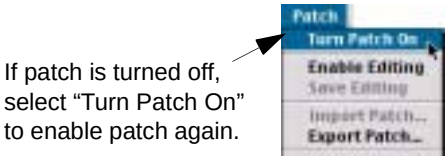
DMX fixtures must be patched to the Virtuoso DX console using a *profile* in order to be controlled. Patching connects the fixture to a DMX universe and allows its thumbwheel address to be associated to a control channel. A DMX profile includes the number of DMX channels required to operate a fixture and parameter mapping for console control. Patching any fixture to the Virtuoso DX console requires a thumbwheel address. The address is not a setting made at the fixture, but must be included and must not be used by any other device in the system. This enables fixtures to be accessed in PATCH OFF mode.

VARI✳LITE Series 300 Luminaires

VARI✳LITE Series 300 luminaires are patched directly by their thumbwheel address. This address is determined by the port connection at the Smart Repeater™ unit. The patch logically associates the "soft" thumbwheel address to the control channel. Luminaire lamp power may be controlled by the SPC-36 interface. In this case, the patch combines the thumbwheel from the Smart Repeater unit and the corresponding thumbwheel from the SPC-36 interface to enable *start*, *douse* and *standby* lamp functions, as well as, all parameter controls when the luminaire's control channel is selected.

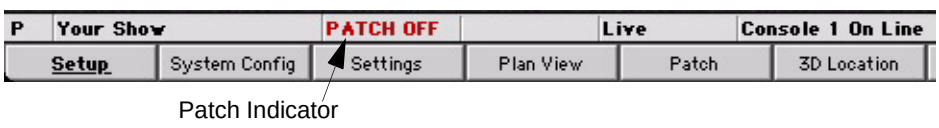
Patch ON

Patch ON is the default setting when opening a new show file. Patch must be turned on for channel selection to operate by channel number instead of thumbwheel address. The Patch ON setting is available at the Patch menu.



If patch is turned off, select "Turn Patch On" to enable patch again.

The patch indicator lets you know whether patch is currently on or off.



Note: PATCH OFF will not allow control of DMX luminaires that have not been patched into the show file.

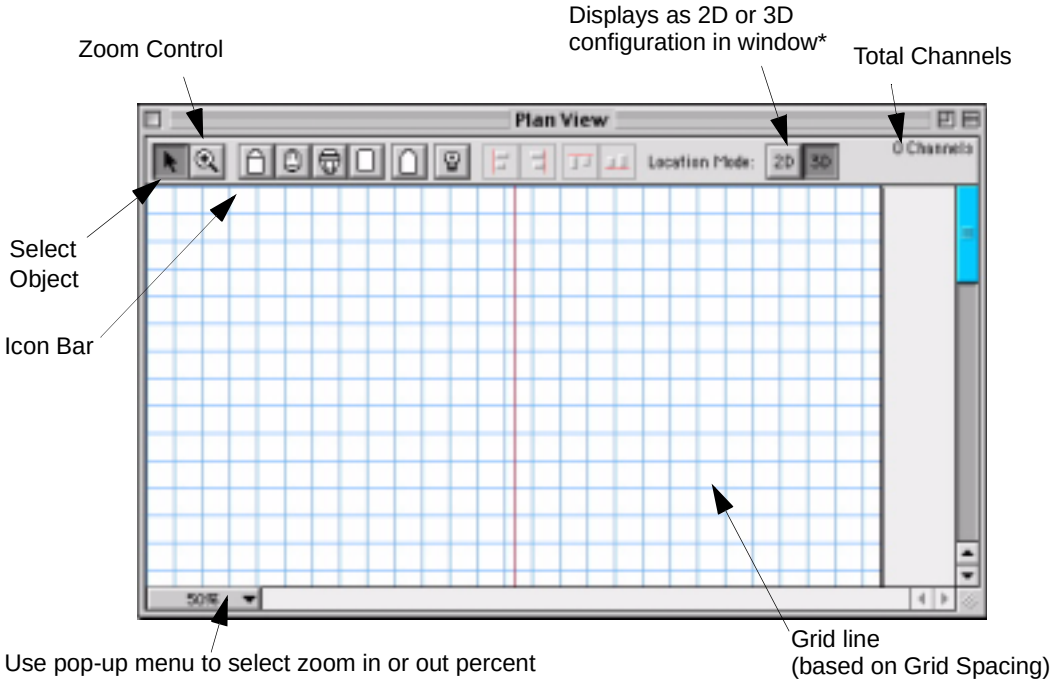
Setting Up Plan View Window

Devices are patched using the Plan View window. The Plan View appearance can be set up as required.

To setup plan view window:

Step 1. At Operation menu, select Plan View. Plan View window will open and 2D Display menu will become available on menu bar.

Step 2. At Patch menu, select Enable Editing. Icon bar and grid will appear in Plan View window and Patch menu selection will change to "Disable Editing". "Save Editing" option will also be activated.



* Refer to "2D/3D Mode Guidelines" on page 47 for more information.

Tip You can periodically save editing changes to the Plan View without disabling editing, by selecting Save Editing at the Patch menu.

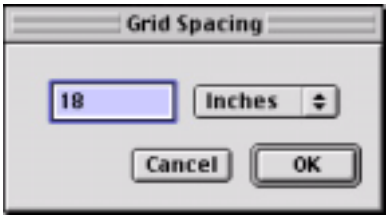
Step 3. If required, define plan view drawing size:

a. At 2D Display menu, select Drawing Size... Drawing Size window will open.

b. Enter size, scale, and point of origin (X/Y coordinate) for drawing (refer to "Match 3D" on page 273 for instructions on using this feature). (The default unit of measure is English. To configure console for Metric units, refer to "Settings Window" on page 258.)

c. Click Ok.

Step 4. If required, define grid size (spacing between grids):



a. At 2D Display menu, select Grid Size... Grid Spacing window will open.

b. Enter grid spacing and select inches or feet at pop-up menu. (The default unit of measure is English. To configure console for Metric units, refer to "Settings Window" on page 258.)

c. Click Ok.

d. At 2D Display menu, enable or disable Snap To Grid option (enabled when checked).

Step 5. Display luminaire icons in a two-dimensional or three-dimensional location mode by clicking on either 2D or 3D. Refer to "2D/3D Mode Guidelines" on page 47 for important information regarding this feature.

Plan View Background Picture

A 2D background picture can be imported for use in the Plan View window. The console will accept the following 1:1 format files:

- *.dxf
- *.dwg

To import Plan View background picture:

- At File menu, select Import 2D Background...

Patching DMX/Conventional Fixtures

The console provides for a maximum of 26 universes (labeled A thru Z), which are assigned to DMX buses or "hosts" (hardware outputs within the system). This means that the actual amount of buses available will depend on your system setup. The Virtuoso DX console contains two DMX cards, each supporting four universes. Other VARI*LITE interfaces which include DMX buses are the UDM unit (one bus) and the NIF unit (two buses). These buses and their starting thumbwheel addresses can be configured using the DMX Setup window. The DMX Setup Window opens with a default of eight universes, however, the DMX Host contains a "None" option to clear this configuration.

To define DMX universes:

Step 1. If necessary, at Patch menu, select Enable Editing. (Must be enabled to edit window.)

Step 2. At Patch menu, select DMX Setup.

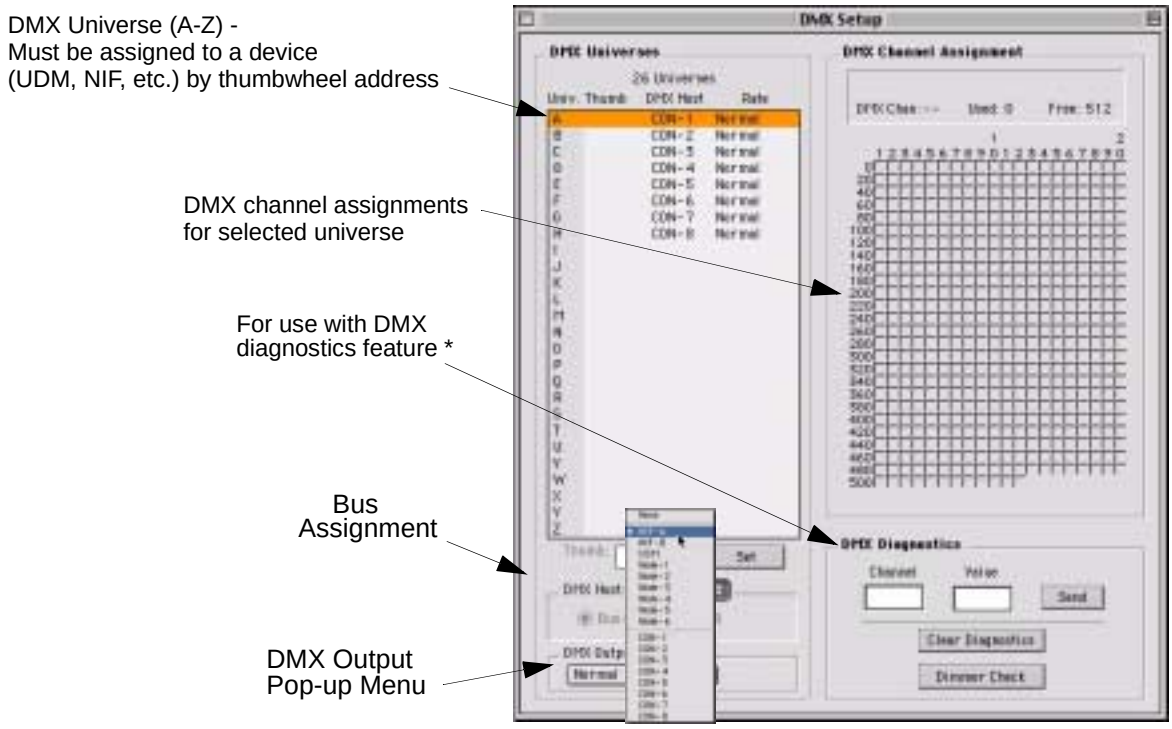
Step 3. For each required universe, do the following:

a. Using cursor, select universe by letter (A-Z).

b. Select DMX Host. (If NIF is selected, also select Bus A or B.)

c. For NIF or UDM units, enter thumbwheel address.

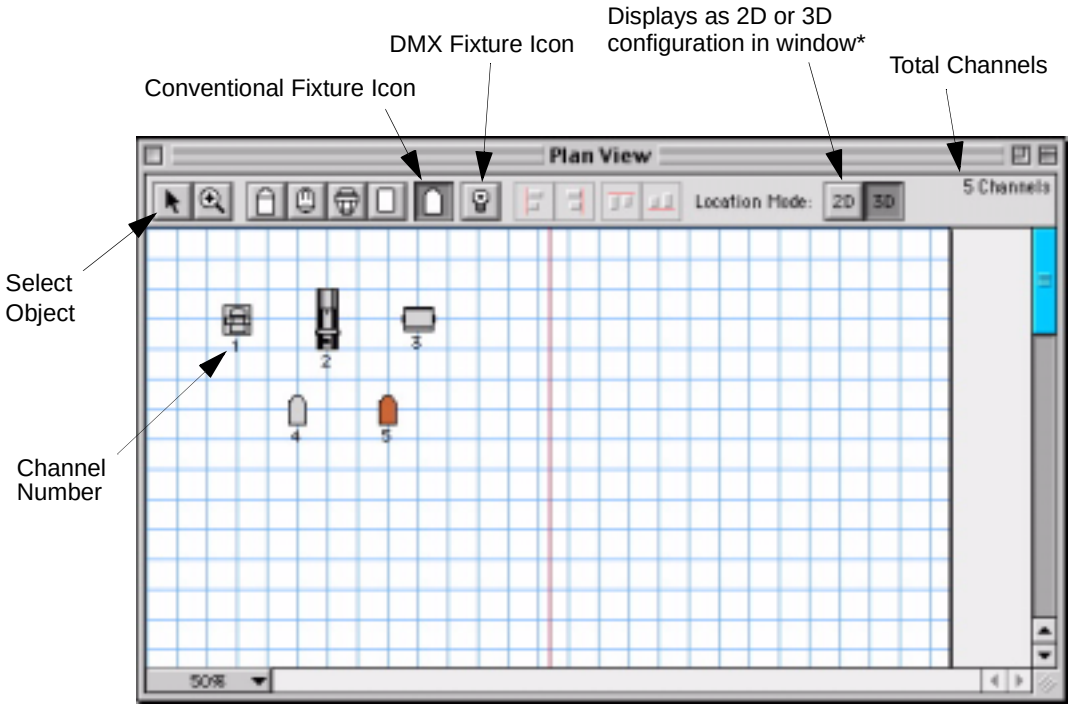
d. Click Set.



* For instructions on using DMX diagnostics, refer to "DMX Channel Tests" on page 297.

To patch a DMX or conventional fixture:

Note: Depending on whether you are patching a generic DMX fixture or a conventional fixture, a slightly different patch window will open when you drop the respective icon into the Plan View window.



* Refer to "2D/3D Mode Guidelines" on page 47 for more information.

Step 1. At Plan View window icon bar, select either DMX or conventional fixture icon as required.

Step 2. At desired location on plan view, click to place icon. Appropriate DMX or Conventional Patch window will open.

Step 3. At DMX or Conventional Patch window, do the following:

a. At Device pop-up menu, specify fixture profile type.

b. At Address column, enter appropriate channel and thumbwheel information.

c. At Lamp Control column, specify lamp source and preheat level as required. (Preheat values of 0 to 9 percent may be assigned for incandescent luminaires.)

d. At Focus column, define any special focus instructions as required to sync mirror fixtures for pan and tilt actions.

e. Do one of the following as required:

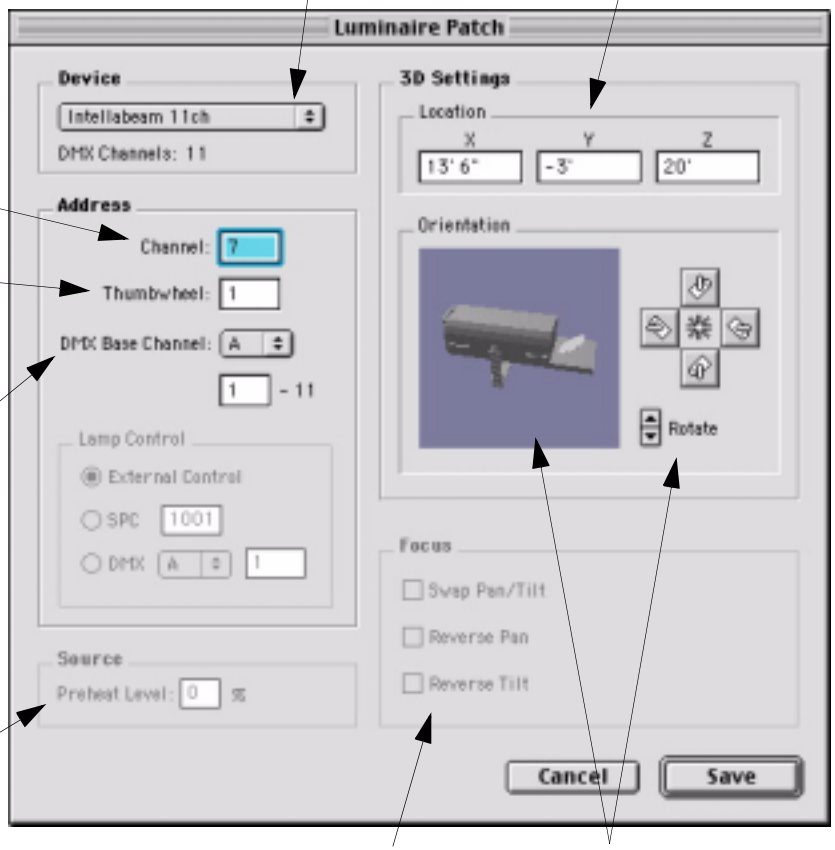
1) *For automated luminaires*: use DMX Base Channel pop-up menu to assign a DMX universe. Enter luminaire DMX starting address in field beneath universe setting. (Ending address will be generated according to profile used.)

2) *For conventional luminaires*: in DMX Address column, assign DMX universe. Using range entry fields beneath display column; add, change or remove addresses. (Left field is for single channel entry.)

To add a scroller, click Add Scroller box beneath device popup menu. See page 39 for further instructions regarding scrollers.

(Refer to next page for snapshot of Conventional Patch window)

DMX Patch Window



Note: The next three steps are only required if you intend to use the console's 3D graphic features. For more information regarding these coordinates, refer to "Defining X, Y, Z Locations" on page 274.

f. Use default 3D X, Y, and Z coordinates or enter new ones.

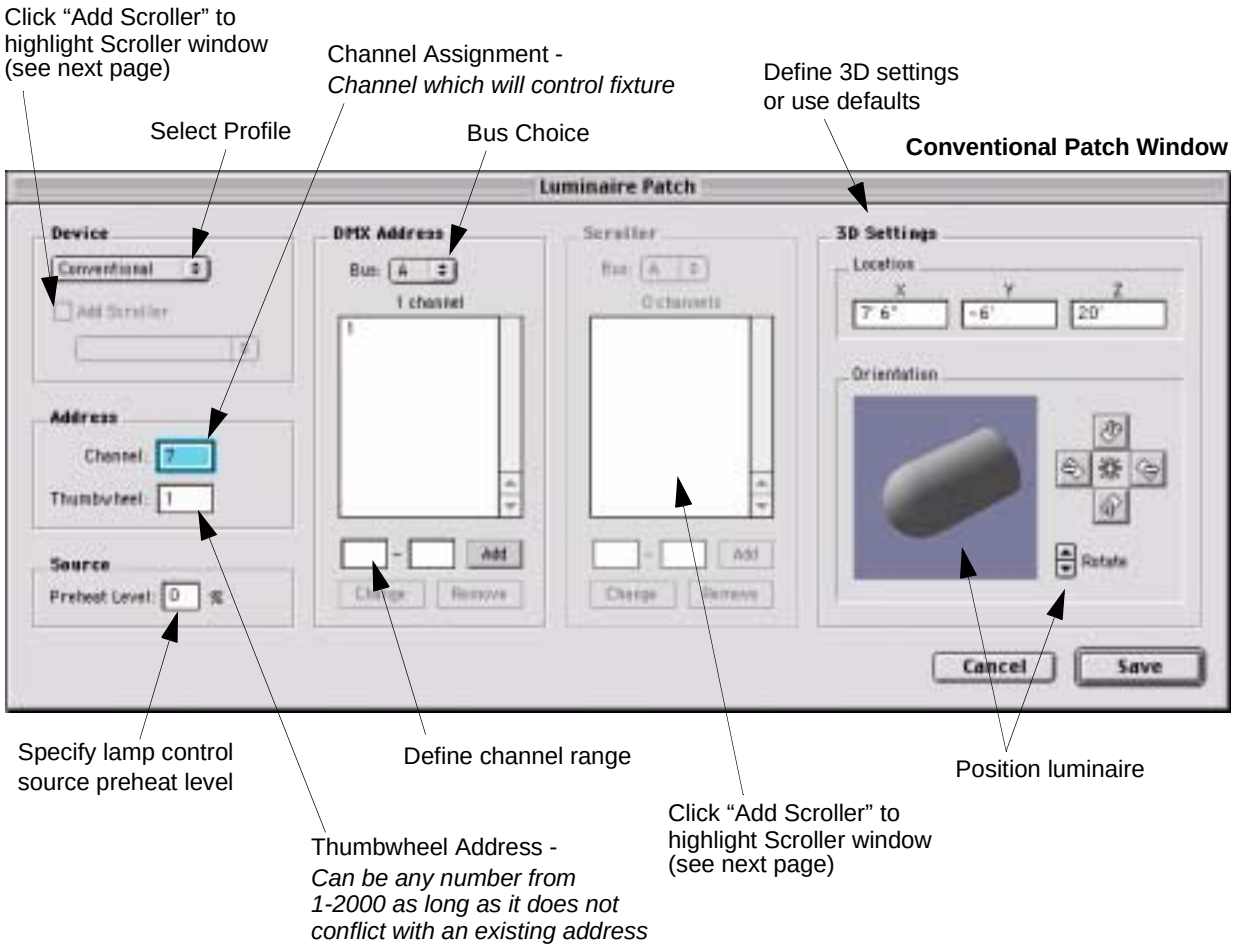
g. Use Position pop-up menu to specify luminaire orientation and location (i.e. hanging, floor mount, stage left, etc.).

h. Use pointer or Rotate arrows to rotate luminaire to required position.

i. When finished, click Save.

Step 4. Repeat Steps 1-3 for each DMX luminaire in your system.

Step 5. When all luminaires are defined in your patch, at Patch menu, select Disable Editing. (This prompts a dialog allowing you to save editing.)



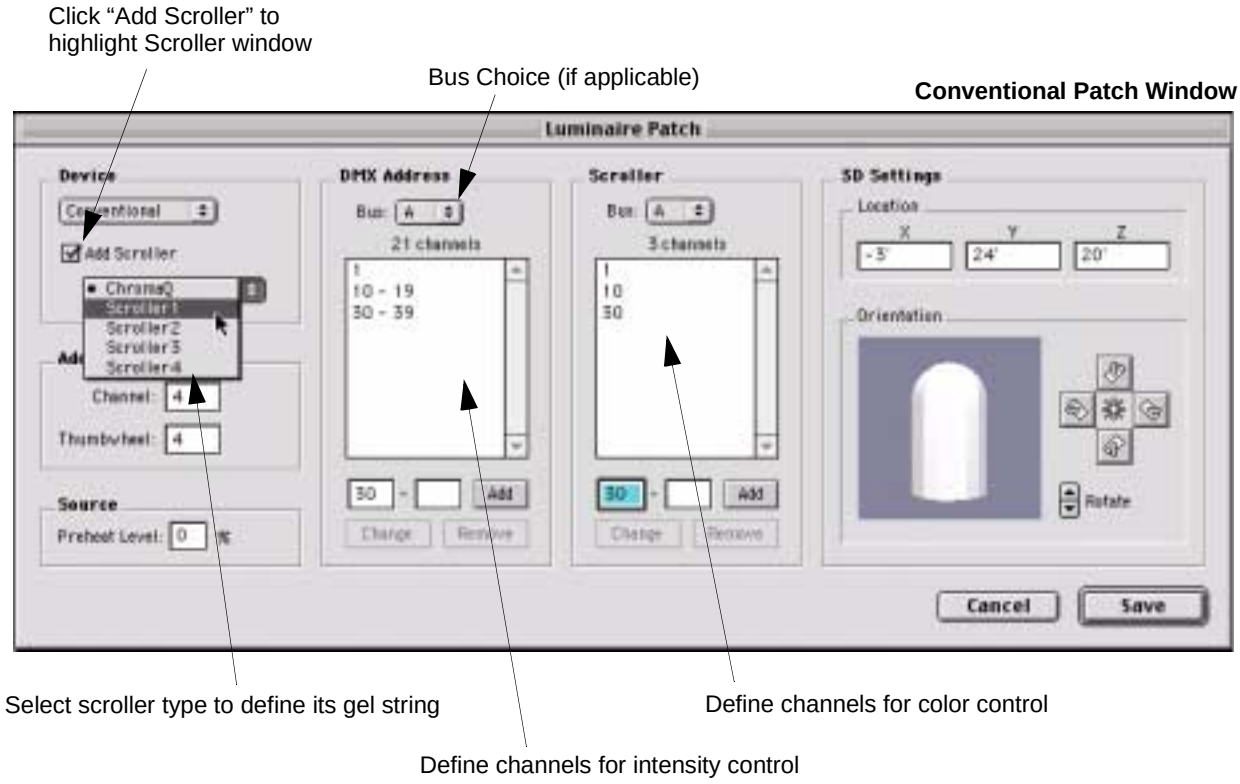
To add a scroller:

Step 1. To add a scroller, click Add Scroller box beneath device popup menu.

Step 2. At Scroller popup menu, select a scroller type in order to define which gel string it will reference (see below).

Step 3. In DMX Address column, select a DMX bus. Using range entry fields beneath column; add, change or remove addresses. These addresses will define which DMX channels control scroller intensity.

Step 4. In Scroller column, select a DMX bus. Using range entry fields beneath column, add, change or remove addresses. These addresses will define which channels control scroller color.



Scroller Types

Five scroller type choices are provided in order to allow different scrollers to reference different gel strings.

- ChromaQ - Type of scroller which supports 3D colors for the standard gel string. Supports 16 frames.
- Scrollers 1-4 - Four additional generic scroller types.

Note: Scroller color control is controlled by the Wheel encoder.

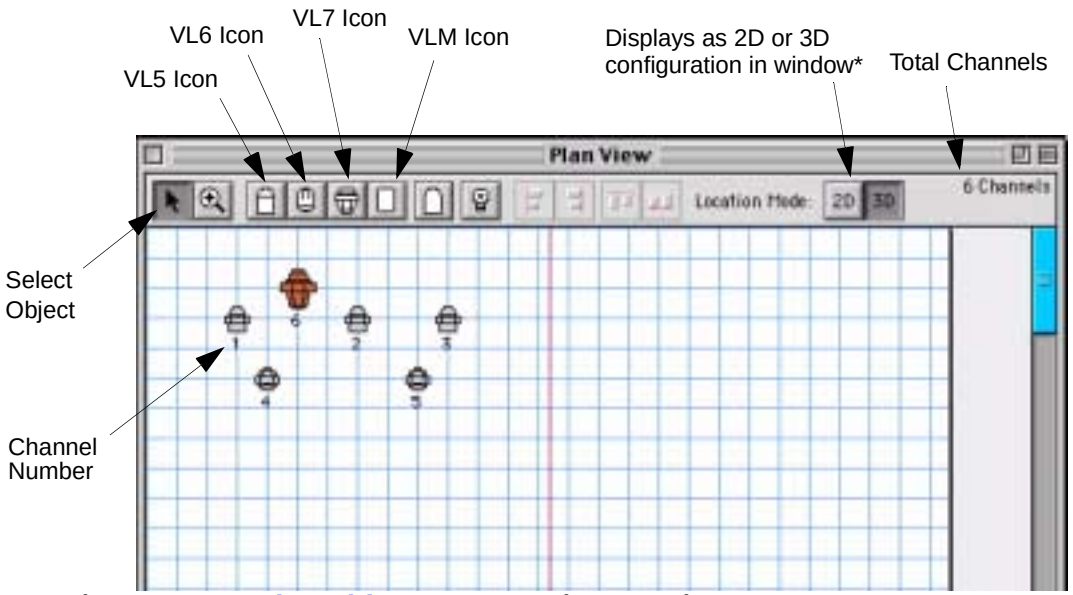
Patching VARI*LITE Series 300 Luminaires

Use this procedure to patch VARI*LITE interface devices, Series 300 luminaires, and lamp power supplies.

Note: This patch procedure does not work for VL2000™, VL2™ or VL4™ luminaires. Series 200™ luminaires must be patched using the DMX procedure. Refer to "Patching DMX/Conventional Fixtures" on page 35.

Step 1. At Plan View window icon bar, select a VARI*LITE luminaire icon as required.

Step 2. At desired location on plan view, click to place icon. Luminaire Patch window will open.



* Refer to "2D/3D Mode Guidelines" on page 47 for more information.

Step 3. At luminaire Patch window, do the following:

a. At Device pop-up menu, specify luminaire profile type (VL5™, VL5Arc™, VL5B™, VL6™, VL7™, etc.).

b. At Address column, enter appropriate channel, thumbwheel, and bulb thumbwheel information. (Thumbwheel addresses can be obtained from the System Configuration window if necessary.)

c. Specify lamp source and preheat level as required. (Preheat values of 0 to 9 percent may be assigned for incandescent luminaires).

Note: The following three steps are only required if you intend to use the console's 3D graphic features. For more information regarding these coordinates, refer to "Defining X, Y, Z Locations" on page 274.

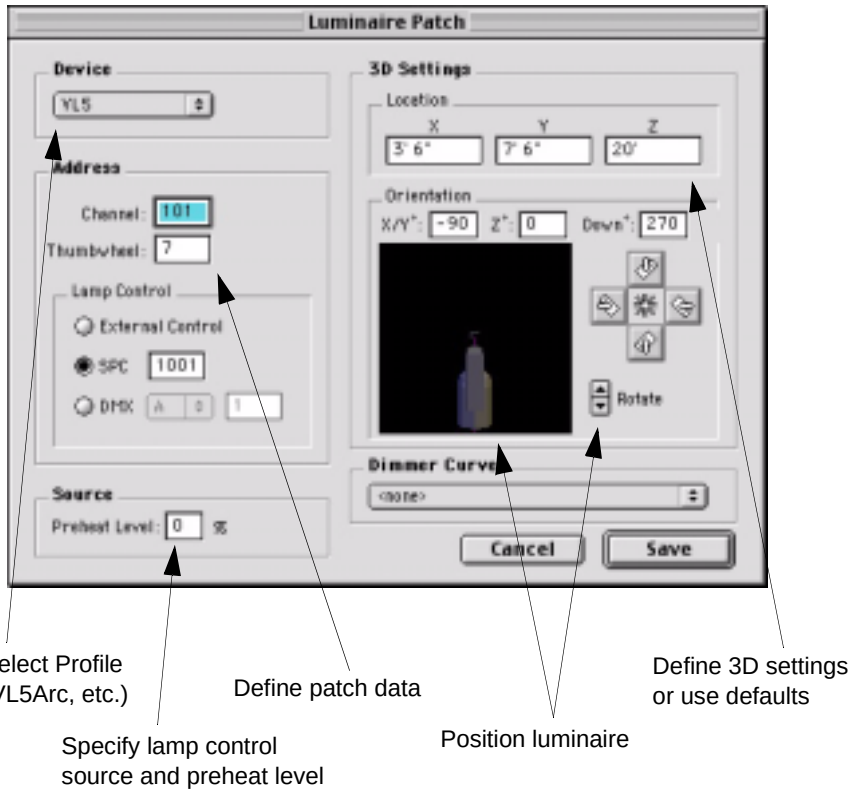
d. Use default 3D X, Y, and Z coordinates or enter new ones.

e. Use Position pop-up menu to specify luminaire orientation and location (i.e. hanging, floor mount, stage left, etc.).

f. Use pointer or Rotate arrows to rotate luminaire to required position.

Tip After the first luminaire's icon has been placed and its information defined in the Luminaire Patch window, you can place multiple icons without having the luminaire patch window open each time. To do this, hold down OPTION while dropping icons.

g. When finished, click Save.



Step 4. Repeat Steps 1-3 for each VARI*LITE luminaire in your system.

Step 5. When all luminaires are defined in your patch, at Patch menu, select Disable Editing. (This prompts a dialog allowing you to save editing.)

Check online status:

Verify that the patch is correct by checking the online status of your luminaires. Any channel that is up and running, communicating, patched, and has all of its show data is considered online.

Step 1. Press [Online]. All online luminaires will light in Channel Select window or Channel Select panel (if available).

Step 2. Press [Online] again to exit status mode.

Note: This can also be done using the menu command.

Dimmer Curves

Overview

Dimmer curves provide better control of incandescent source luminaires. There are seven pre-programmed dimmer curves available: Fast Bottom, Fast Top, Full at 1%, Hot Patch, IES Square Law, Slow Bottom, and Slow Top.

Note: Dimmer curves can also be edited from Luminaire Patch and Patch windows.

Dimmer Curves Window

The Dimmer Curves window allows import, export, updating, and deleting of dimmer curves. Dates of dimmer curve files are shown for the console and for the show file. They may be copied easily from the show file to the console, or from the console to the show file.

To open Dimmer Curves window:

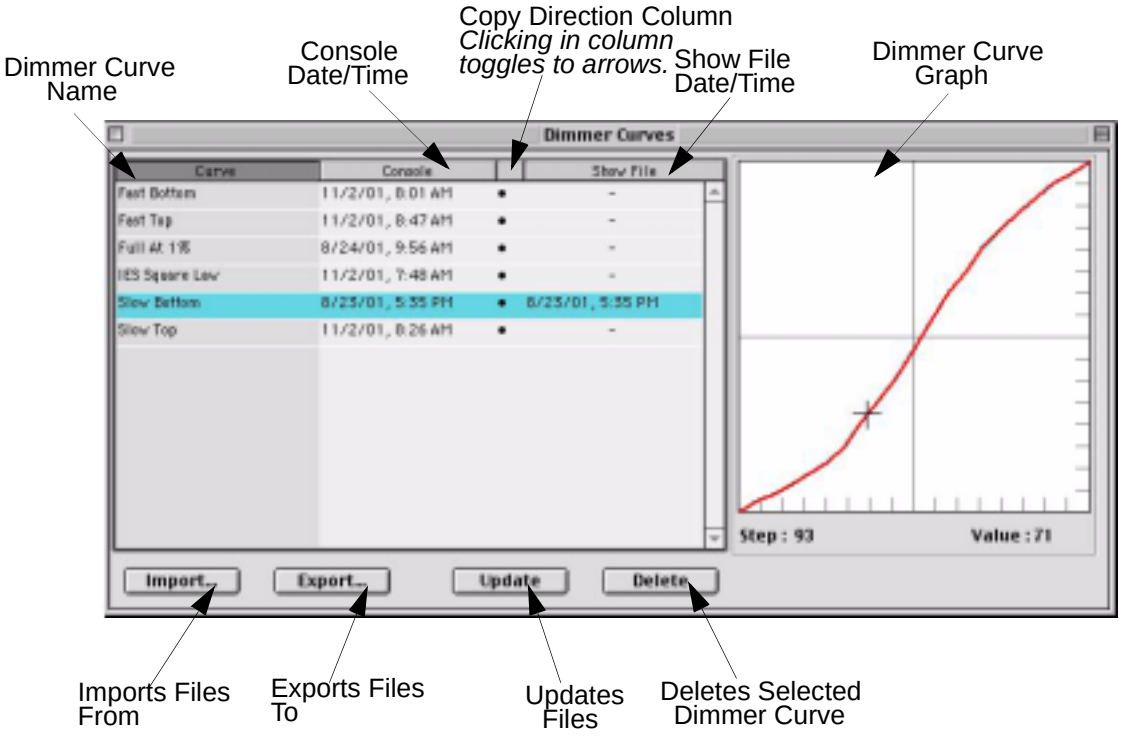
Step 1. Select Libraries/Dimmer Curves from the File menu.

To move dimmer curve files:

Step 1. At Dimmer Curve window, using trackpad, select dimmer curve to be moved.

Step 2. Click on Copy Direction column between Console and Show File column. This column will change from a Bullet, to left arrow, or a right arrow. Keep clicking until desired direction is displayed.

Step 3. To move file in the direction selected, click Update at bottom of window. This will copy the file in the direction selected. (This is a permanent change.)

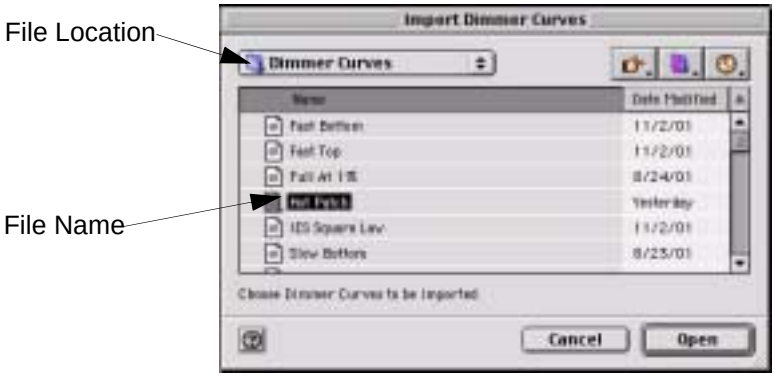


To import dimmer curve files:

New dimmer curve files can be imported into the dimmer curves window. Any comma-delimited file can be used as a dimmer curve file. A dimmer curve file can be created in any text or spreadsheet program. The file must contain intensity values for each step (0-255) separated by commas. For example, entries in a dimmer curve file look like: 0,0,1,1,2,3....

Step 1. At Dimmer Curve window, click Import.

Step 2. At Import Data window, select file location (disk or folder). Click on file name. Click Open.



To set dimmer curve from Luminaire Patch Window:

Step 1. At Luminaire Patch window, select desired dimmer curve.

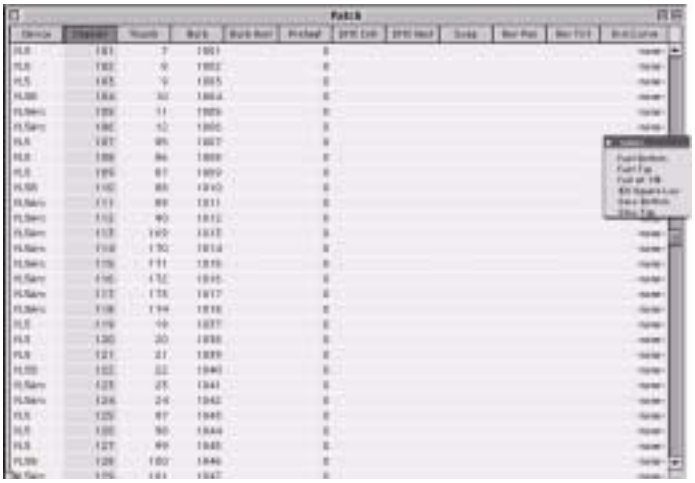
Step 2. Click Save to update patch.

To set dimmer curve from Patch window:

Step 1. At Setup menu, select Patch. Window will open.

Step 2. For desired luminaire, click in Dim Curve column.

Step 3. At drop-down menu, select dimmer curve type.



Patch Editing

Editing Windows

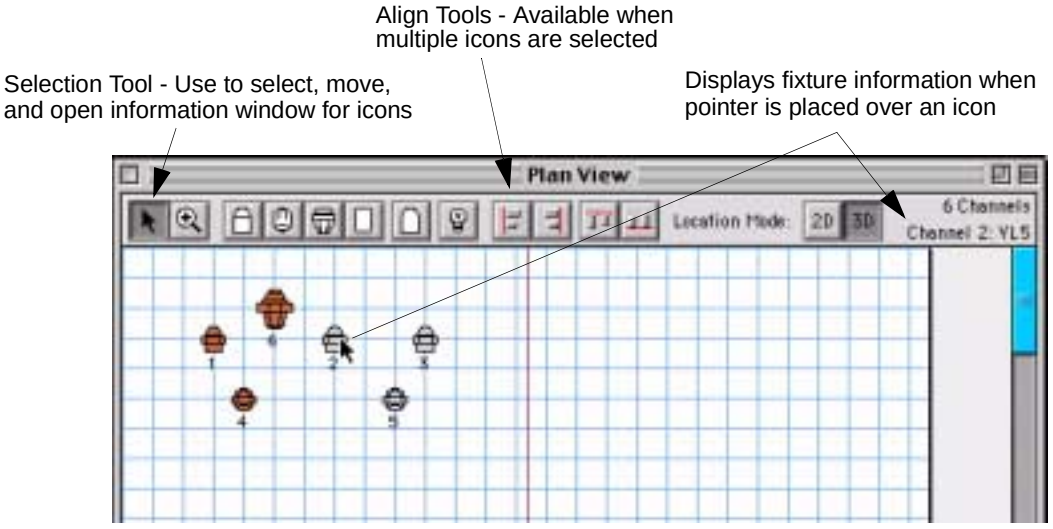
Once entered, patch data can be edited at the Plan View window or Patch window. Save changes by selecting Save Editing or Disable Editing at the Patch menu.

Plan View

Depending on whether Patch Editing is enabled, the Plan View window will be displayed differently.

With Patch Editing Enabled:

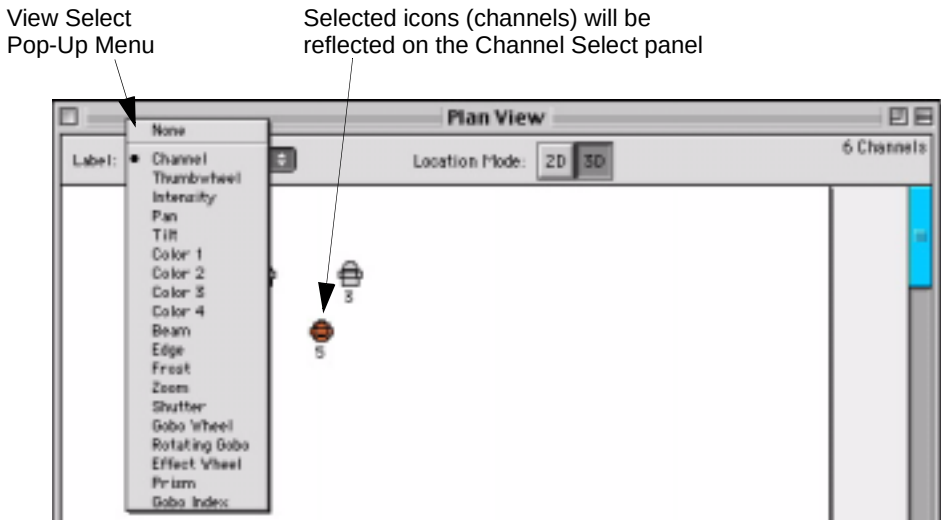
- Move icons to new locations with the selection tool (while holding down the trackpad button).
- Select multiple icons by dragging a box around them or by holding down SHIFT button while selecting.
- Double-click any icon to bring up its associated patch data window.
- Change the 3D height location (Z coordinate) of selected luminaires. Refer to "Changing 3D Height Location" on page 275.
- Delete icons using the alpha keyboard.


Align Tools - Available when multiple icons are selected
Selection Tool - Use to select, move, and open information window for icons
Displays fixture information when pointer is placed over an icon
Plan View
Location Mode:
2D
3D
6 Channels
Channel 2: VL5

Note: Selections made in the Plan View window while editing is Enabled will not be reflected at Channel Select window or optional Channel Select panel.

With Patch Editing Disabled

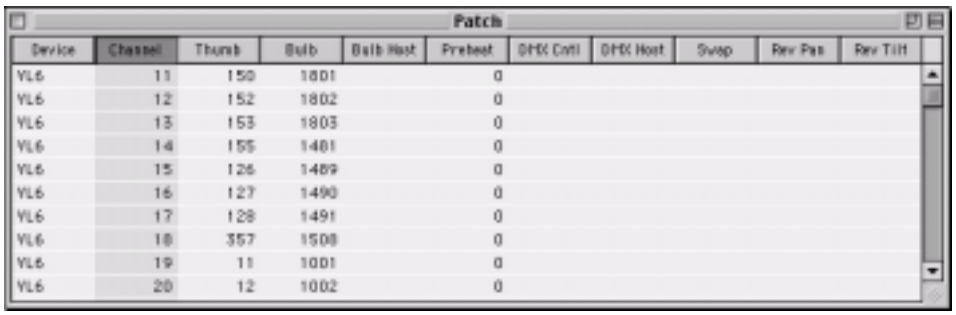
- Use View Select pop-up menu to view status data based on channel, thumbwheel, or any other parameter data as required. For example, selecting Pan would display the pan coordinate for each luminaire.
- Select icons by clicking on them. Select multiple icons by dragging a box around them or by holding down SHIFT button while selecting.
- Selected icons (channels) in the Plan View window (while editing is Disabled) will also be selected for manual control at the Channel Select panel. Refer to "Selecting Channels" on page 50. Click in an open space to deselect all icons.



Patch

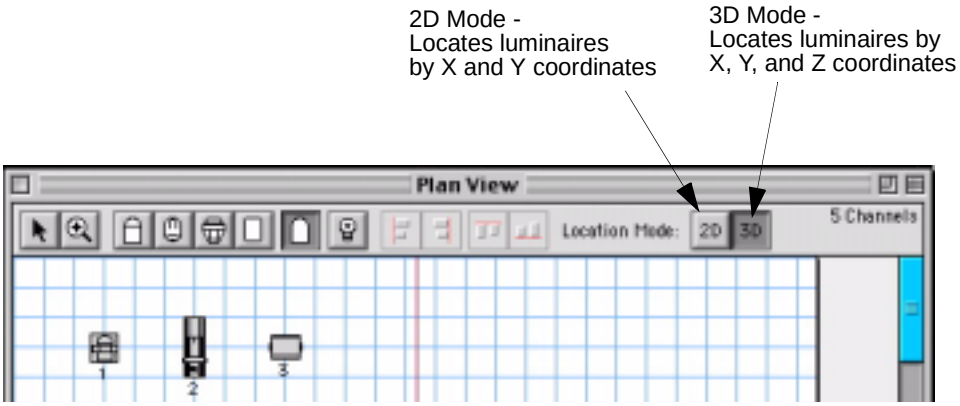
The Patch window displays patch information in a spreadsheet format. Data can be viewed at any time and edited when patch editing is enabled.

- At Setup menu, select Patch. Window will open.
- View and/or edit information as required using cursor and alpha-numeric keyboard.
- Click on a column heading block to sort information by that type.



2D/3D Mode Guidelines

The relationship between the 2D and 3D modes are important to understand when placing icons and editing in the Plan View window.



The 2D mode provides an X and Y coordinate for each luminaire (icon) to locate it in relation to a 2D scheme. The 3D mode provides an additional coordinate, Z, in addition to X and Y to locate a luminaire in relation to a 3D scheme (refer to "Defining X, Y, Z Locations" on page 274 for more information on the console's 3D Graphic features). The relationship between these modes is as follows:

- When an icon is initially placed while in 2D mode, its default X and Y coordinates are provided to its 3D location as well. In other words, X and Y for 2D and 3D are the same when an icon is first dropped. (They are considered "linked" at this point.) A default Z (height) value of 20 feet is also included in the 3D location data for the luminaire.
- If an icon is moved in the Plan View while in 2D mode, the X and Y coordinates would be updated in its 2D patch information, but not in the 3D patch. The 3D X and Y coordinates would still be the default values (given that the icon has not previously been moved while in 3D mode). (The "link" is considered broken at this point.)

General Rule. Modifying icon positions in the 2D mode *will not* be reflected in the 3D patch. Modifying icon positions in the 3D mode *will* be reflected in the 2D patch.

Note: The Match 3D feature available in the Drawing Size window allows importing of the size and window positioning coordinates from the 3D graphic into the Plan View. (This requires that a 3D graphic has been previously imported.) Refer to "Match 3D" on page 273.

Notes

CHAPTER 4.

Manual Control

This chapter provides instructions for controlling luminaires in order to build cues.

- **Channel Select**
- **Lamp Control**
- **Encoder Control**
- **Keypad Control**
- **Luminaire Status**

Note: The Select Displays feature is also used for manual control of luminaires, however, due to the versatility of this feature it is covered in a separate chapter.

Channel Select

Overview

When the patch was defined in the previous chapter, each luminaire was assigned to a control channel. Selecting the channel will give you control of the luminaire's parameters in order to build cues or to store as groups of channels.

If the patch is disabled, luminaires must be selected for manual control using their thumbwheel address. The procedure for selecting a thumbwheel address is the same as channel selection. (For example, the procedure for selecting channel 301 would be the same as the procedure for selecting thumbwheel 301.)

Note: We recommend using Patch Disabled mode only when VARI*LITE luminaires are present. This is not a recommended state for storing cues, presets, groups, etc.

In addition to the methods of channel selection covered in this section, channels can also be selected in the Plan View and 3D Graphic windows. However, these methods are covered along with the respective topics elsewhere in this manual:

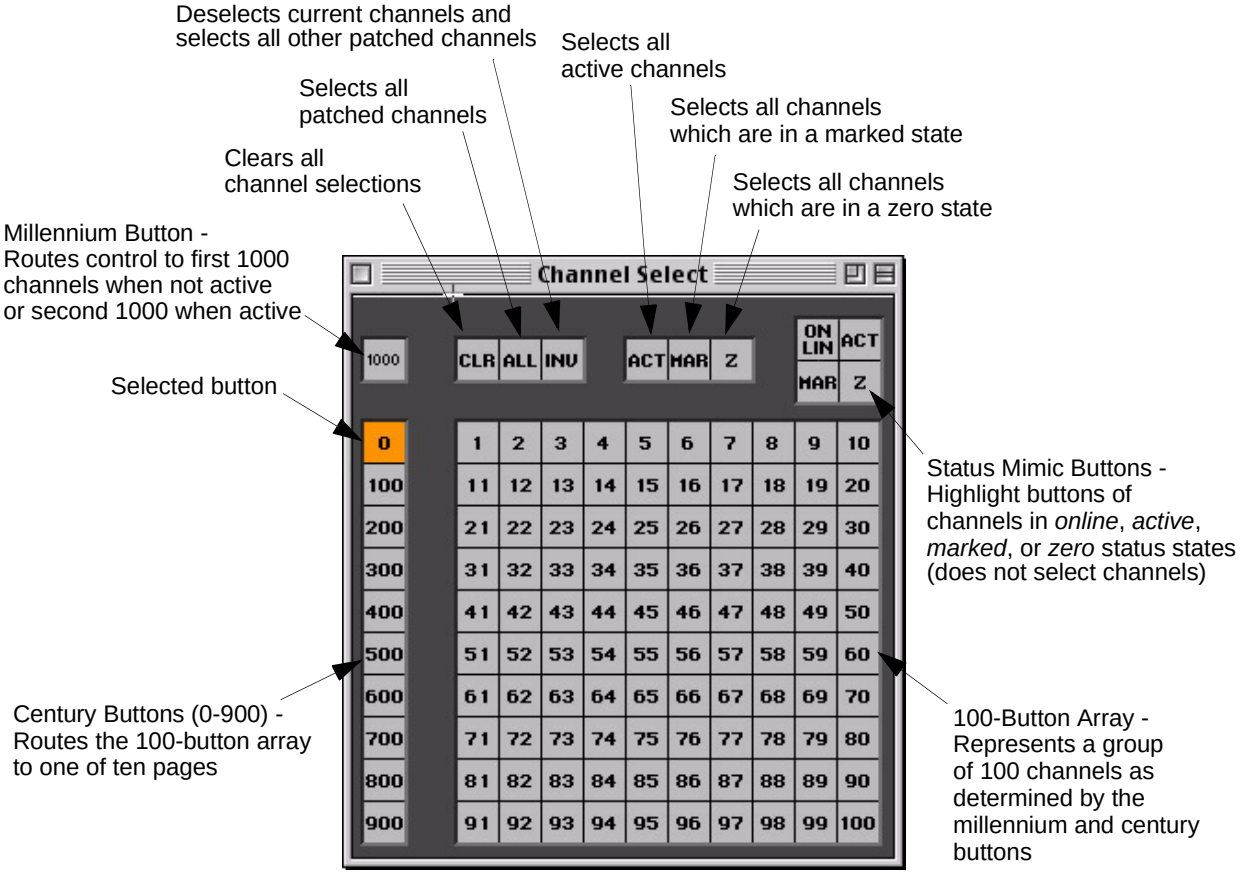
- For selecting channels via the Plan View window, refer to "Plan View" on page 45.
- For selecting channels via the 3D Graphic window, refer to "Using 3D Graphic Window" on page 276.

Selecting Channels

Channel numbers (patch enabled) or thumbwheel numbers (patch disabled) can be selected or deselected from the Channel Select window, command-line keypad, and/or Channel Select panel. When selecting channels, the channels will light in the window on the Channel Select panel and their respective icons will be highlighted in the Plan View window.

From Channel Select Window

Open window by selecting Channel Select at the Windows menu.


Deselects current channels and selects all other patched channels
Selects all active channels
Selects all patched channels
Selects all channels which are in a marked state
Clears all channel selections
Selects all channels which are in a zero state
Millennium Button - Routes control to first 1000 channels when not active or second 1000 when active
Selected button
Channel Select
1000
CLR
ALL
INV
ACT
MAR
Z
ON LIN
ACT
MAR
Z
0
1 2 3 4 5 6 7 8 9 10
100 11 12 13 14 15 16 17 18 19 20
200 21 22 23 24 25 26 27 28 29 30
300 31 32 33 34 35 36 37 38 39 40
400 41 42 43 44 45 46 47 48 49 50
500 51 52 53 54 55 56 57 58 59 60
600 61 62 63 64 65 66 67 68 69 70
700 71 72 73 74 75 76 77 78 79 80
800 81 82 83 84 85 86 87 88 89 90
900 91 92 93 94 95 96 97 98 99 100
Status Mimic Buttons - Highlight buttons of channels in online, active, marked, or zero status states (does not select channels)
Century Buttons (0-900) - Routes the 100-button array to one of ten pages
100-Button Array - Represents a group of 100 channels as determined by the millennium and century buttons

Select a single channel (or multiple single channels):

Step 1. Using cursor, click [1000] as required.

Step 2. Click [0] through [900] as required. Button will light.

Step 3. Click button of channel number to be selected. Button will light.

Step 4. To select multiple single channels, continue clicking on buttons of channel numbers you wish to add (selections “pile on”).

Example: To select channel 521, ensure that [1000] button is not active, click the page [500] button and then click [21] on the 100-button array.

Select a range of channels:

Step 1. Using cursor, click [1000] as required.

Step 2. Click [0] through [900] as required. Button will light.

Step 3. Click button of first channel number to be selected. Then, while holding mouse button, drag across range of channels.

Select channels on multiple pages:

Step 1. Using cursor, click [1000] as required.

Step 2. Click [0] through [900] as required. Button will light.

Step 3. Select required channels.

Step 4. Click on next required page ([0] through [900]). First page button will be dimly highlighted to show that channels are selected on that page.

Step 5. Select required channels on new page.

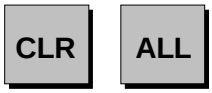
Step 6. Repeat Steps 4 and 5 as required.

Deselect channels:

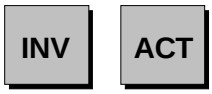
- Press any selected channel button(s) to deselect.

Special Buttons

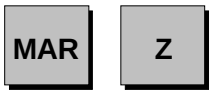
Six buttons are available in the Channel Select window for simplifying channel selection.



- [CLR] - clears all channel selections.
- [ALL] - selects all patched channels.



- [INV] - (Invert) deselects currently selected channels and selects all other patched channels.
- [ACT] - selects all channels with *active** luminaires.



- [MAR] - selects all *marked** channels.
- [Z] - selects all channels in a *zero** state.

* Active - luminaires with intensity greater than zero (1-100%).
* Marked - luminaires with an intensity state of "marked."
* Zero - luminaires with an intensity state of zero ("hard zero", 0% level).
(For a more in-depth explanation, refer to "Intensity States" on page 117).

Status Mimic

These four buttons located at the top right portion of the Channel Select window are referred to as “status mimic” buttons. Here channel select buttons illuminate in purple as an indicator rather than as a selection tool.

[On Lin] - Indicates all online luminaires.

[Act] - Indicates all luminaires that are *active**.

[Mar] - Indicates all luminaires that are *marked**.

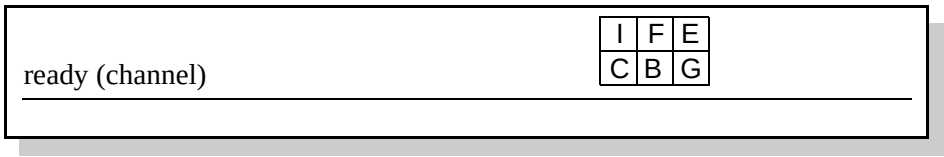
[Z] - Indicates all luminaires that are in a *zero** state.

* Active - luminaires with intensity greater than zero (1-100%).
* Marked - luminaires with an intensity state of “marked.”
* Zero - luminaires with an intensity state of zero ("hard zero", 0% level).
(For a more in-depth explanation, refer to “Intensity States” on page 117).

From Keypad

Channel selection guidelines:

- Any combinations of [+], [-], and [Thru] are allowed.
- Thru lists (channel ranges) must be entered in ascending order only.
- [Enter] terminates the selection process and sets the keypad so that the next entry is automatically accepted (pressing [Clear] to reset the command-line keypad is not required.)
- Because the keypad always defaults to channel entry mode, use of the [Chan] (channel) button is optional.



Select a single channel:

- <Chan> [n] [Enter].

Select multiple channels:

- <Chan> [m] [+] [n] [Enter].

Select a range of channels:

- <Chan> [m] [Thru] [q] [Enter].

Other examples:

- <Chan> [m] [+] [s] [Thru] [w] [Enter].
- <Chan> [m] [+] [s] [Thru] [w] [-] [t] [Enter].

[Clear]

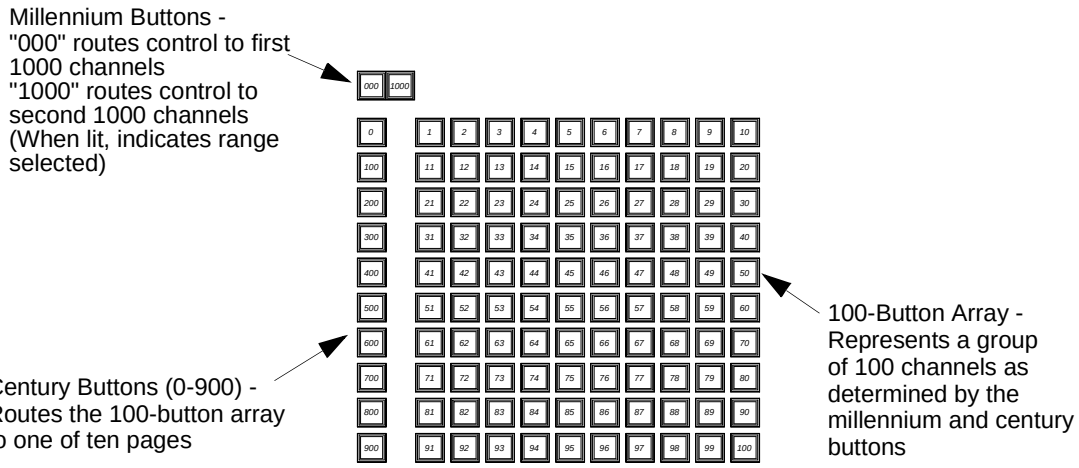
[Clear] functions as a backspace key when used during command-line construction. For example, <Chan> [n] [Thru] [t] [Clear] [s] [Enter] results in the selection of channels n thru s. When [Clear] is used after an [Enter] (fully terminated command line), the command line is cleared.

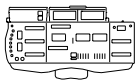
The only thing that clears a syntax error on the command line is [Clear]. Any other keypad entry is ignored until the error condition is cleared.

Shortcut Holding down [Clear] will clear an entire unterminated command line.

From Channel Select Panel

Selecting channels from the Channel Select panel (if available) is basically the same as selecting channels in the Channel Select window.





Note: The Virtuoso console is not equipped with the [000] button. In this case, when the [1000] button is inactive, the channel select routes control to channels 1-1000. When the [1000] button is lit, control is routed to channels 1001-2000.

Select a single channel (or multiple single channels):

Step 1. Press [000] or [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of channel number to be selected. Button will light.

Step 4. To select multiple single channels, continue selecting channels (channel selections "pile on").

Example:
To select channel 521, ensure that [000] button is not active, press the page [500] button and then press [21] on the 100-button array.

Select a range of channels:

Step 1. Press [000] or [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of first channel number to be selected. Then, while holding down first button, press button of last number in range. First and last buttons will light, as will all those in-between.

Select channels on multiple pages:

Step 1. Press [000] or [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of first channel number to be selected. Then, while holding down first button, press button of last number in range. First and last buttons will light, as will all those in-between.

Step 4. Press next required page ([0] through [900]). First page number button will flash to show that channels are selected on that page.

Step 5. Press buttons for channels to be selected.

Step 6. Repeat Steps 3 through 5 as required.

Deselect a single channel (or multiple single channels):

- Press any selected channel button(s) to deselect.

Deselect a range of channels:

- Press button of first selected channel button to be deselected. Then, while holding down first button, press button of last number in range. The range will be deselected.

Shortcut To select a single channel and deselect all others, double-click on any channel button.

Channel Select Quick Buttons

Six special buttons are available for simplifying channel selection.

- [Invert] - deselects currently selected channels and selects all other patched channels.
- [Clear] - clears all channel selections.
- [All] - selects all patched channels.
- [Active] - selects all channels with *active** luminaires.
- [Mark] - selects all *marked** channels.
- [Zero] - selects all channels in a *zero** state.

* For a more in-depth explanation, refer to "Intensity States" on page 117.

[Next] and [Last]

The [Next] and [Last] buttons will step through all on-line channels.

[Next] - increments the channel selection by one.

If a single channel were selected (either with the keypad or the 100 button array), pressing [Next] will increment the channel selection by one. If a range of channels is selected, the first press of [Next] will select the first channel in that range. Subsequent presses will increment the channel selection by one, but will not select a channel outside the range.

[Last] - decrements channel selection by one.

If a single channel were selected (either with the keypad or the 100 button array), pressing [Last] will decrement the channel selection by one. If a range of channels is selected, the first press of [Last] will select the last channel in that range. Subsequent presses will decrement the channel selection by one, but will not select a channel outside the range.

Shortcut [Next] / [Last] - pressing these buttons together will reselect the original channel range.

Lamp Control

Start

Start will function for all arc luminaires with remote start capability.

Start lamps using [Start] button:

Step 1. Select luminaire(s) for manual control.

Step 2. Set luminaire(s) in recommended starting position according to manufacturer's specifications.

Step 3. Press [Start].

Start lamps from menu bar:

Step 1. Select luminaire(s) for manual control.

Step 2. Set luminaire(s) in recommended starting position according to manufacturer's specifications.

Step 3. At Special menu, select Start.

Douse

Douse will function for all arc luminaires with remote douse capability.

Douse lamps using [Douse] button:.

Step 1. Select luminaire(s) for manual control.

Step 2. Press [Arm] / [Douse].

Douse lamps from menu bar:

Step 1. Select luminaire(s) for manual control.

Step 2. At Special menu, select Douse.

Reset/Recalibration/Erase Luminaire Data

Two different types of luminaire resets are available.

- **Recalibrate** - returns luminaire to default home position based on profile and re-downloads data.
- **Reset** - activates reset command if supported by luminaire and profile and re-downloads data.

Erase Luminaire Data clears all data from a luminaire's on-board RAM and disk.

CAUTION: Erase Luminaire Data command removes all show data from the show file for selected channels. There is NO undo available.

Recalibrate luminaires using [Reset] button:

Step 1. Select luminaires for manual control.

Step 2. Press [Arm] / [Reset].

Reset luminaires using [Reset] button:

Step 1. Select luminaires for manual control.

Step 2. Press [Arm] / [Reset] [Reset] (press Reset button twice while holding down Arm button).

Reset/Recalibrate/Erase Luminaire Data from menu bar:

Step 1. Select required channels.

Step 2. At Special menu, select Reset, Recalibrate, or Erase Luminaire Data.

Reset VARI*LITE luminaires from System Configuration window:

Step 1. At System Configuration window, double-click icon of luminaire to be reset or recalibrated. Device Info window will open.

Step 2. Click Reset or Recalibrate as required.

Encoder Control

Overview

The manual control encoders (or “knobs”) provide incremental control of luminaire parameters.

Console Encoders

Pan, tilt, and intensity are provided with permanently assigned encoders, while the remaining parameters are mapped to “soft encoders.” The soft encoders control a variety of luminaire parameters depending on which function is currently selected. A display associated with each soft encoder indicates its selected function.

Functions:

- Color - controls color functions such as CMY, RGB, wheels, flags, or color plates.
- Beam - controls edge, beam, zoom, frost, strobe, and prism.
- Image - controls static gobo, rotating gobo, spin, and effects.
- 3d - routes X, Y and Z coordinates for pan and tilt.
- Dynamics - modifies rate, size, and orientation of dynamic states.
- Frame - controls framing shutters.

By selecting a function, the soft encoders change to control the parameters of that function. These functions are fixture specific when selecting single luminaire types. In addition to the encoder, minimum and maximum control buttons are provided to apply a default setting to selected luminaires. Like the soft encoders, the functionality of these buttons depends on the currently selected function. The min/max buttons are initially programmed with a default console setting, but can be reprogrammed with your own settings as required. Instructions for programming new settings can be found in “Storing New Default Min/Max Settings” on page 64.

Encoders Window

An Encoders window is also available. The window functions just as the standard encoders and also provides a visible display of currently selected cue or effect and allows specification of a submaster for cue tracking.

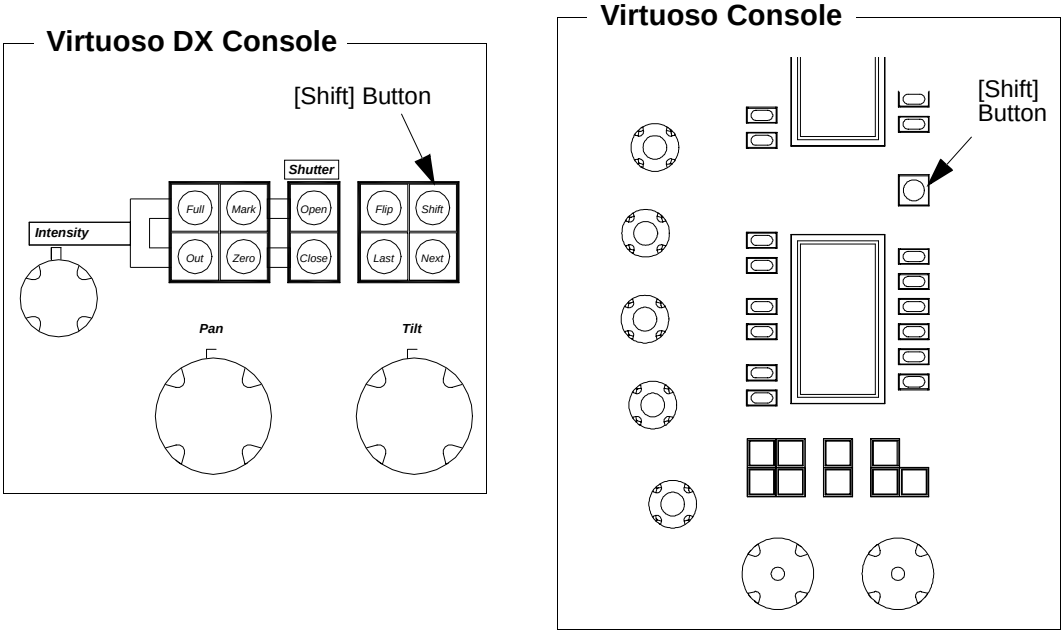
Fan Function

A special fan function is also available to provide five different types of encoder fanning styles. Refer to “Encoder Fan” on page 66.

Console Encoders

When a luminaire is selected for manual control, the encoders and buttons available on the console's front panel can be used to change its parameters.

Note: Additional functions can be accessed by pressing the [Shift] button.



Pan and Tilt

Pan and tilt are controlled by the two encoders marked Pan and Tilt respectively. These knobs can be used to change the position of a luminaire's beam.

Three buttons above the Tilt encoder are also associated with pan and tilt functions:

- [Flip] causes selected luminaires to pan and tilt until the head is pointing in the same direction as before. The head assembly pans 180 degrees and tilts as required so that the head points in the same direction. (DMX moving mirror luminaires will not respond to this command.)
- The [Next] and [Last] buttons will step through all on-line channels.

Intensity

Intensity output can be controlled by the encoder marked Intensity. This knob can be used to adjust the brightness of the luminaire's beam. Six buttons to the right of the Intensity encoder are also associated with the intensity function. (Intensity also affects how a cue is stored, however, this topic will be discussed in more detail in "Intensity States" on page 117.)

- [Full] sets selected luminaires to full intensity (100%).
- [Out] sets selected luminaires to an *out** or *inactive* state (no parameter data, 0% level).
- [Mark] sets selected luminaires to a *marked** state (0% level).
- [Zero] sets selected luminaires to *zero** intensity ("hard zero", 0%).
- Shutter [Open] is used with luminaire strobe or douser mechanisms.
- Shutter [Close] is used with luminaire strobe or douser mechanisms.

* For a more in-depth explanation, refer to "Intensity States" on page 117.

Color

Color can be controlled by the soft encoders when [Color] is selected. These knobs can be used to adjust or change the hue and saturation of the beam's color.

The soft encoders will be mapped as follows:

Encoder 1 - BLUE (open/close)

Encoder 2 - AMBER (open/close)

Encoder 3 - MAGENTA (open/close)

Encoder 4 - WHEEL (open/close) - also controls gel scrollers.
w/ [Shift] button pressed - WHEEL SPIN (max/stop)

Encoder 5 - FROST (in/out)

Beam

Beam can be controlled by the soft encoders when [Beam] is selected. These knobs can be used to set all the parameters associated with a luminaire's beam.

The soft encoders will be mapped as follows:

Encoder 1 - BEAM (open/close)

Encoder 2 - EDGE (hard/soft)

Encoder 3 - ZOOM (large/small)

Encoder 4 - STROBE (max/stop)

Encoder 5 - PRISM (in/out) w/[Shift] button pressed - SPIN (stop/max)

Encoder 6 - P Index (open/other) w/[Shift] button pressed - ROTATE (stop/max)

Image (Gobo)

Images can be controlled by the soft encoders when [Image] is selected. These knobs can be used to access the gobo, effects, and prism features of a luminaire.

The soft encoders will be mapped as follows:

Encoder 1 - GOBO (open/other)
w/ [Shift] button pressed - WHEEL SPIN (max/stop)

Encoder 2 - ROTATING GOBO (open/other)
w/ [Shift] button pressed - ROTATING SPIN (max/stop)

Encoder 3 - INDEX (open/other)
w/ [Shift] button pressed - ROTATE (max/stop)

Encoder 4 - EFFECTS WHEEL (open/other)
w/ [Shift] button pressed - EFFECTS SPIN (max/stop)

Encoder 5 - EFFECTS INDEX (open/other)
w/ [Shift] button pressed - EFFECTS ROTATE (max/stop)

Encoder 6 - EDGE (hard/soft)
w/ [Shift] button pressed - ZOOM (large/small)

3D

3D parameters can be controlled by the soft encoders when [3d] is selected. These knobs can be used to adjust X, Y, and Z coordinates of the luminaire.

The soft encoders will be mapped as follows:

Encoder 1 - X (min/max)

Encoder 2 - Y (min/max)

Encoder 3 - Z (min/max)

Dynamic States

Dynamic states can be controlled by the soft encoders when [Dyn] is selected. These knobs can then be used to adjust the parameters of dynamic states as defined by the Dynamic State feature available on the touch screen display.

Note: This is an advanced feature and will be discussed in "Dynamic State Mode" on page 163.

The soft encoders will be mapped as follows:

Encoder 1- ORIENT (min/max)

Encoder 2 - SIZE (min/max)

Encoder 3 - RATE (min/max)

Frame (VL7B™ Luminaire Only)

Framing (beam shaping) can be controlled by the soft encoders when [Frame] is selected. These knobs can be used to access the framing parameters of the luminaire's beam.

Note: Buttons A and B can be selected individually or together. (When selected, the letter will illuminate in the display.)

The soft encoders will be mapped as follows:

Encoder 1 - SHUTTER 1

Button [a] selects Encoder 1 for control of first motor.

Button [b] selects Encoder 1 for control of second motor.

Encoder 2 - SHUTTER 2

Button [a] selects Encoder 2 for control of first motor.

Button [b] selects Encoder 2 for control of second motor.

Encoder 3 - SHUTTER 3

Button [a] selects Encoder 3 for control of first motor.

Button [b] selects Encoder 3 for control of second motor.

Encoder 4 - SHUTTER 4

Button [a] selects Encoder 4 for control of first motor.

Button [b] selects Encoder 4 for control of second motor.

Encoder 5 - ALL

[flip H] - flips framed image to a horizontal position.

[flip V] - flips framed image to a vertical position.

Encoder 6 - ROTATE

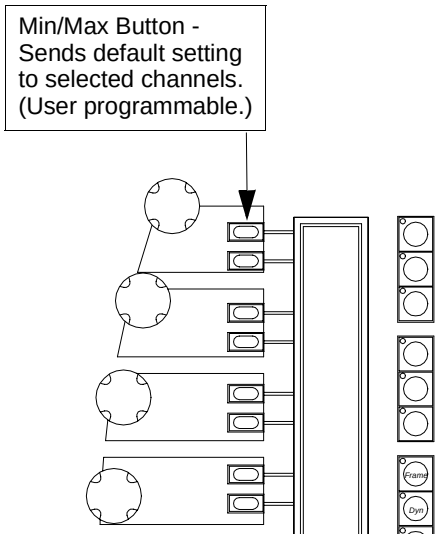
[mid] - sends framing mechanism back to its mid-point.

[rot 90] - rotates framing mechanism 90 degrees from its current position.

Storing New Default Min/Max Settings

The min/max buttons associated with each function can be programmed with your own default settings as required. These settings are referred to as hard/soft, in/out, etc. depending on the mechanism being controlled. The initial console default settings (which correspond to the luminaire's actual min/max values) can be re-stored with your own min/max settings.

The min/max settings are based on channel selection. This means that a different minimum and maximum setting can be defined for every channel or for groups of channels as required. For example, if Channel 1 is patched as a VL5 luminaire you could select its channel and then store appropriate min/max settings. You could then deselect Channel 1 and select Channel 2 (which for example is patched as a VL6 luminaire) and store different min/max settings. Depending on whether Channel 1 or Channel 2 is selected, the min/max settings would be different.



Store new min/max settings:

Step 1. Press button for required set of soft encoder functions. It will be mapped to soft encoders.

Step 2. Select luminaires to be included in min/max setting. (For example, select some VL6 luminaires.)

Step 3. Using encoders, adjust parameter for new setting.

Step 4. Press [Store] / [Encoder Min/Max Button]. Setting is now stored for those channels.

Add new channels to a setting:

Step 1. Select luminaires to be added to setting. (For example, select additional VL6 luminaires.)

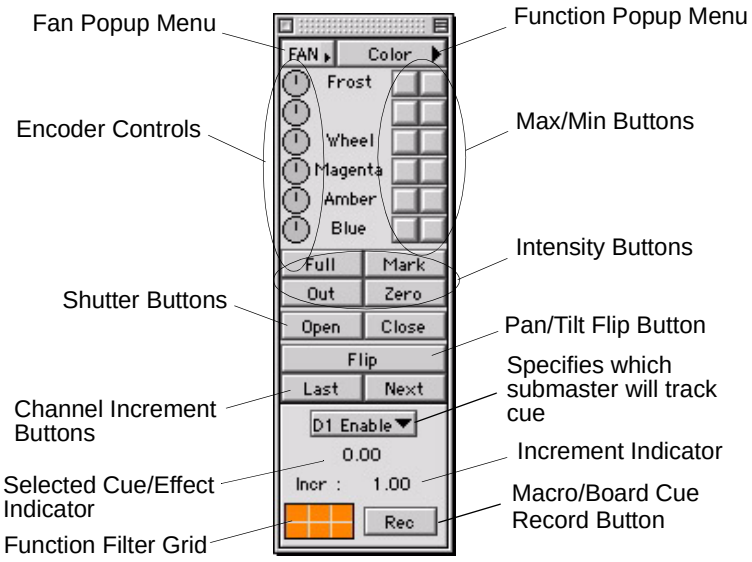
Step 2. Press [Store] / [Encoder Min/Max Button]. Setting is now stored for new luminaires as well as previously stored luminaires.

Encoders Window

The Encoders window functions just as the panel encoders to provide incremental control of luminaire parameters. In addition, it provides a visible display of currently selected cue or effect and allows specification of a submaster for cue tracking. Refer to the function explanations in the section "Console Encoders" on page 60 for more in-depth information on each encoder function and the associated min/max settings.

To operate the window controls:

- At Panels menu, choose Encoders to open window.
- At popup menu, select encoder function: Focus, Color, Beam, Image, Dynamic, or Frame.
- Rotate encoder by clicking and holding mouse button and then moving left or right. Release mouse button when desired encoder setting is reached.
- Currently selected cue/effect and increment setting are indicated at bottom portion of window.



Store new min/max settings:

Step 1. Select luminaires to be included in min/max settings. (For example, select some VL6 luminaires.)

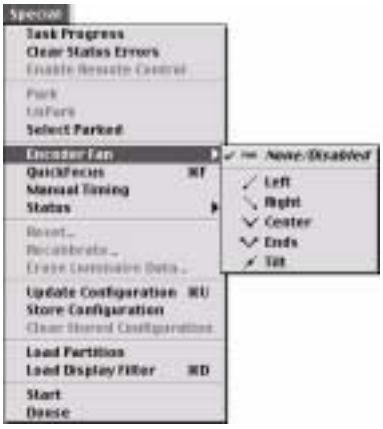
Step 2. At Encoder window, select parameter group from drop-down menu.

Step 3. Using encoders in window, choose a parameter for new setting.

Step 4. Press the OPTION button on the keyboard, and click the desired min/max button in window. Setting is now stored for those channels.

Encoder Fan

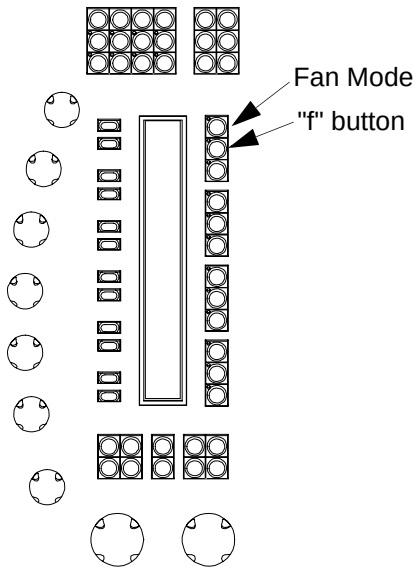
The Encoder Fan function has been added to provide five different types of encoder fanning. Encoder Fan allows fanning of any encoder-controlled parameter on a group of luminaires. The fan types available are left fan, right fan, center fan, ends fan, and tilt fan.



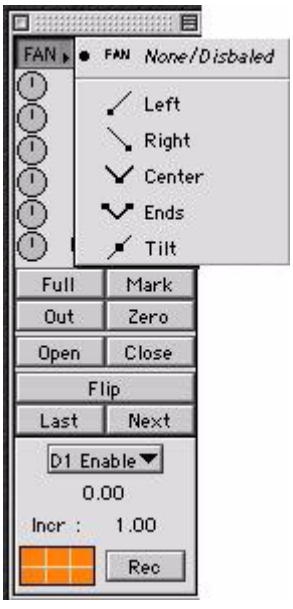
Each type of fanning uses a different anchor point for the base of the fan. Fan ordering is determined by channel numbers and not by selection order.

Encoder fan settings can be changed from three different locations. The Special menu, the Encoders window, or from the Encoders panel on the console.

- Select Encoder Fan from the Special menu. Select fanning type.
- On the Encoders panel, the second Function select button displays "f". Press and hold the "f" button, press the top Function Select button to scroll through the fan modes. The fan mode selected here is momentary. Press and hold "f" button while adjusting parameter encoder. Double-clicking "f" button will latch fan mode on. The LED will flash when enabled.
- Select Encoder from the Panels menu. Click Fan for drop-down menu of encoder fan choices.

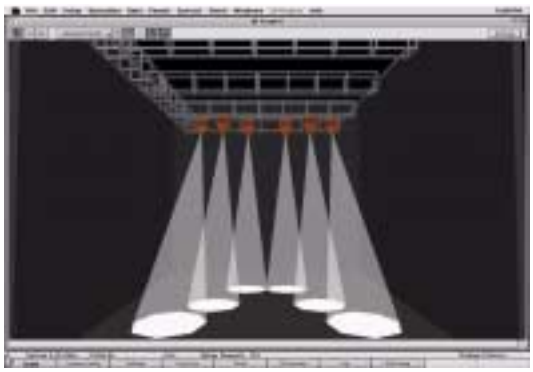


Encoders Panel



Encoders Window

Encoder Fan Examples



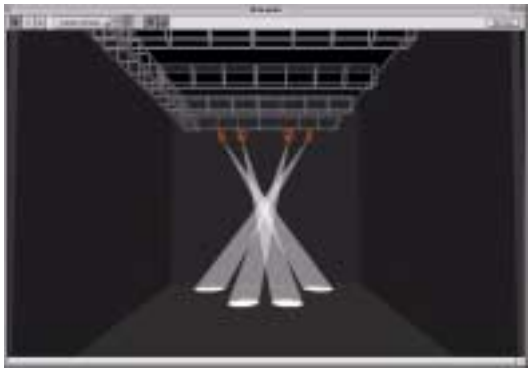
Center Fan

Ends Fan

Right Fan

Left Fan

Tilt Fan (Out)



Tilt Fan (In)

Keypad Control

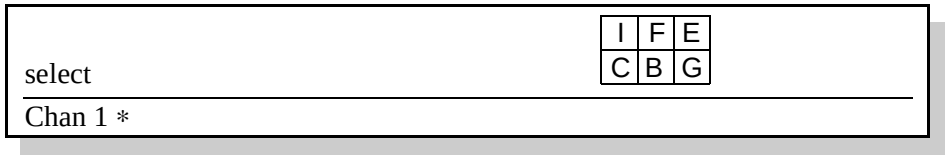
Overview

The control (or command-line) keypad also provides control of luminaires. Luminaire parameters can be programmed from the keypad just as they can from the manual control encoders, although in most cases the touch screen Sneak function is also required. This section will cover all manual controls that can be executed using the command-line keypad alone. Advanced manual control using the keypad will be discussed along with the Sneak function in "Timing/Filter Displays" chapter on page 151.

Entries made with the keypad are referred to as "command-line entries" and will be displayed in the command-line display as they are entered.

Command-line entry guidelines:

- When entering command lines, it is not necessary to specify channel information if the required channels are already selected. If new channels are selected for modification on the keypad, this is reflected at the Channel Select panel.
- [Clear] functions as a backspace key when used during command-line construction. [Clear] is the only thing that clears a syntax error. (Any other keypad entry is ignored until the error condition is cleared.)
- When working from the command-line keypad, parameters will assume their new values at full speed unless Manual Timing is currently enabled, in which case they will use their current timing values. Only when used with the Sneak function can the keypad selections be assigned discrete timing values.
- Since manual control requires channel selection, this can also be done using the command-line keypad. Refer to Channel Select "From Keypad" on page 53.



Shortcut Holding down [Clear] will clear an entire unterminated command line.

Setting Parameters From Keypad

Intensity

The keypad can be used to adjust the brightness of the luminaire's beam. Intensity responds to a percentage value of 0-100.

The [At] button is used to enter intensity values:

- <Chan> [n] [At] [m] [Enter] - changes the intensity level of the selected channel to m.
- <Chan> [n] [Thru] [q] [At] [m] [Enter] - changes the intensity level for the selected range of channels to m.

The [Full] button is used to quickly set intensity to 100%.

- <Chan> [n] [Full] [Enter] - changes the intensity level of the selected channel to 100%.

The [+] and [-] buttons can be used in combination with the [At] button to increment or decrement a current intensity value by a specific amount. For example, if the current intensity value is 50%:

- <Chan> [n] [At] [+] [0] [5] [Enter] - increases the intensity level of the selected channel to 55%.
- <Chan> [n] [At] [-] [0] [5] [Enter] - decreases the intensity level of the selected channel to 45%.

Shortcut To quickly enter an intensity below full, but divisible by 10, use only the first digit of the desired level (for example, [At] [5] = 50%).

Presets

The keypad can be used to assign presets to selected luminaires. The preset entered on the keypad corresponds to the preset saved in that particular preset select (refer to "Presets" on page 93).

Examples:

- <Chan> [n] [Preset] [m] [Enter] - applies preset m to the selected channel n (where m is the discrete preset number).
- <Chan> [n] [Thru] [q] [Preset] [m] [Enter] - applies preset m to the selected range of channels (where m is the discrete preset number).

Colors

The keypad can be used to assign colors to selected luminaires. The color entered on the keypad corresponds to the color saved in that particular color select (refer to "Colors" on page 89).

Examples:

- <Chan> [n] [Color] [m] [Enter] - applies color m to the selected channel n (where m is the discrete color number).
- <Chan> [n] [Thru] [q] [Color] [m] [Enter] - applies color m to the selected range of channels (where m is the discrete color number).

Note: Colors from the VARI*LITE Color System can also be applied using the keypad's [VL Color] button. Refer to "Applying VARI*LITE Colors" on page 105 for instructions.

Beams

The keypad can be used to assign beams to selected luminaires. The beam entered on the keypad corresponds to the beam state saved in that particular beam select (refer to "Beams" on page 83).

Examples:

- <Chan> [n] [Beam] [m] [Enter] - applies beam state m to the selected channel n (where m is the discrete beam number).
- <Chan> [n] [Thru] [q] [Beam] [m] [Enter] - applies beam state m to the selected range of channels (where m is the discrete beam number).

Note: If a profile does not provide default color and beam data, then there will be no change for selected channels until custom color and beam selects are stored.

Luminaire Status

Luminaire Status Window

The Luminaire Status window can be used to view current luminaire data as a numeric value or preset reference. (The window is merely a way to display and review data and does not provide editing functions.)

Open window:

- At Operation menu, select Luminaire Status. Data will be displayed for all luminaires.

Note: Commands can be used to open multiple Luminaire Status windows.

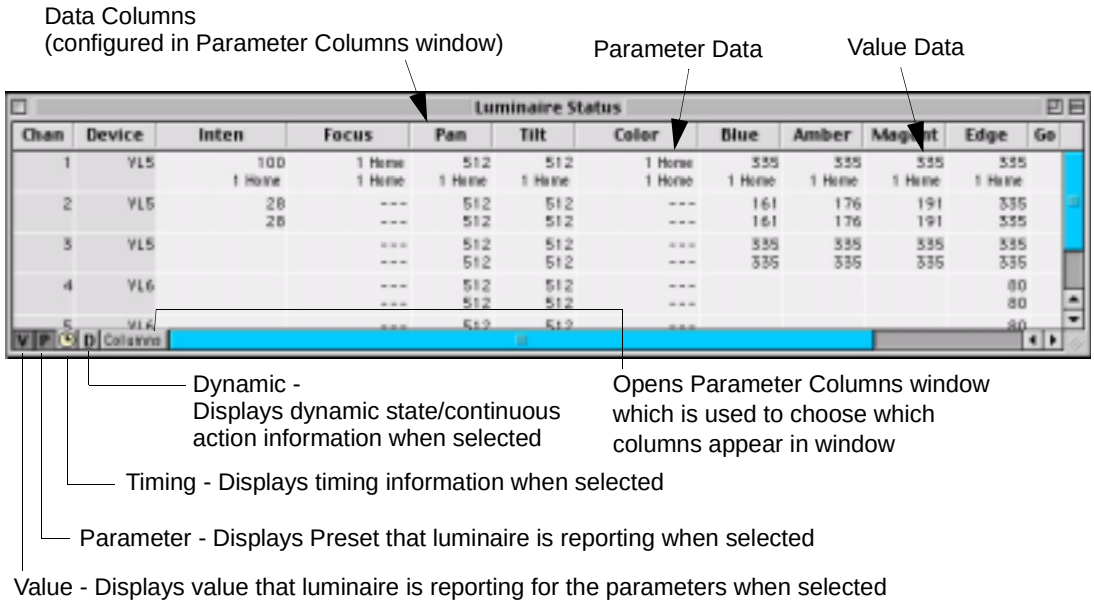
Use the following buttons to display different types of data:

Value (V) button - displays the numeric value currently being received by the luminaire for each parameter.

Parameter (P) button - displays the Preset, Color or Beam which the parameter is currently referencing (default setting).

Timing ( ) button - displays any associated timing information.

Dynamic (D) - displays any associated dynamic state information and continuous action such as wheel spins. *Example*: For Studio Color lens control, parameters appear in Effect dynamic.

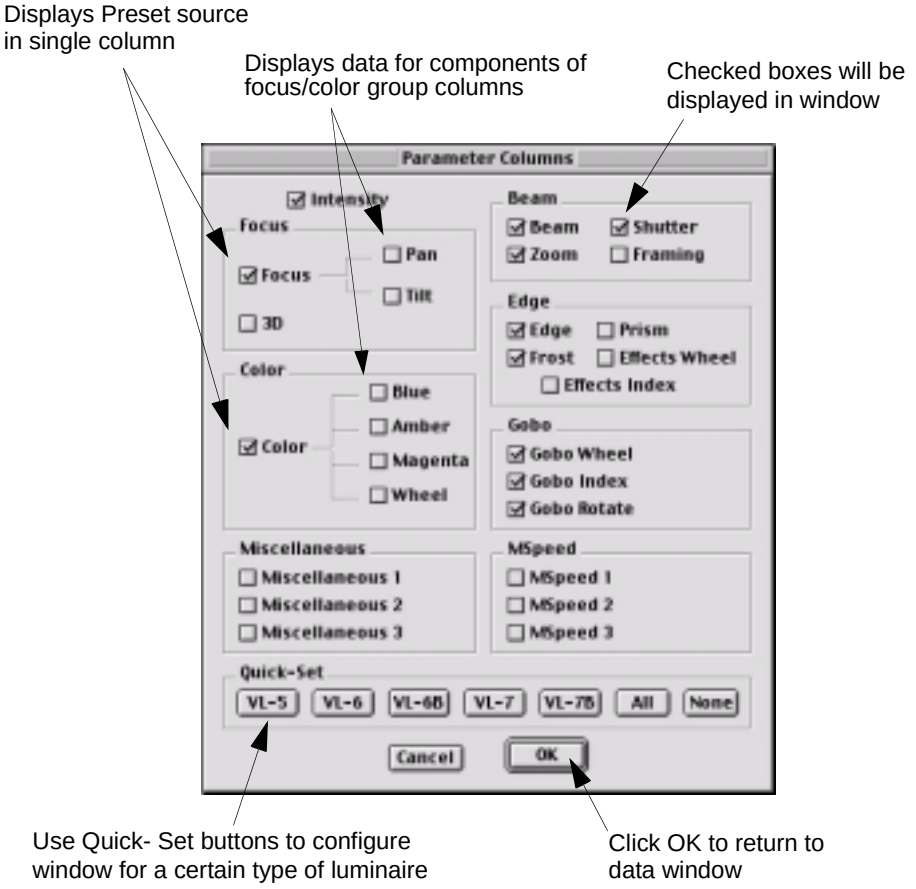


Parameter Columns Window

The Parameter Columns window is used to define which types of information will be displayed in the data window (columns). Using the cursor, select or deselect the boxes as required.

For Focus and Color, two display options are available. Focus can be displayed as a single column and/or two columns, pan and tilt. Color can likewise be displayed as a single column and/or up to four individual color columns, which would provide data for each filter/wheel/plate mechanism in the luminaire. When the single Focus/Color box is checked, the column will display the Preset/Color source, as long as the data is being taken from a single Preset/Color. If not from a single Preset/Color, then the column would display "---". If Pan/Tilt, etc. are checked then those columns also display the source, or if set by encoders, the numerical values. To see both source and # values, select [P] and [V] (at Luminaire Status window).

The Quick-Set buttons will automatically check the boxes which are applicable to a certain type of luminaire and deselect the others, so that no excess columns will be displayed in the window.

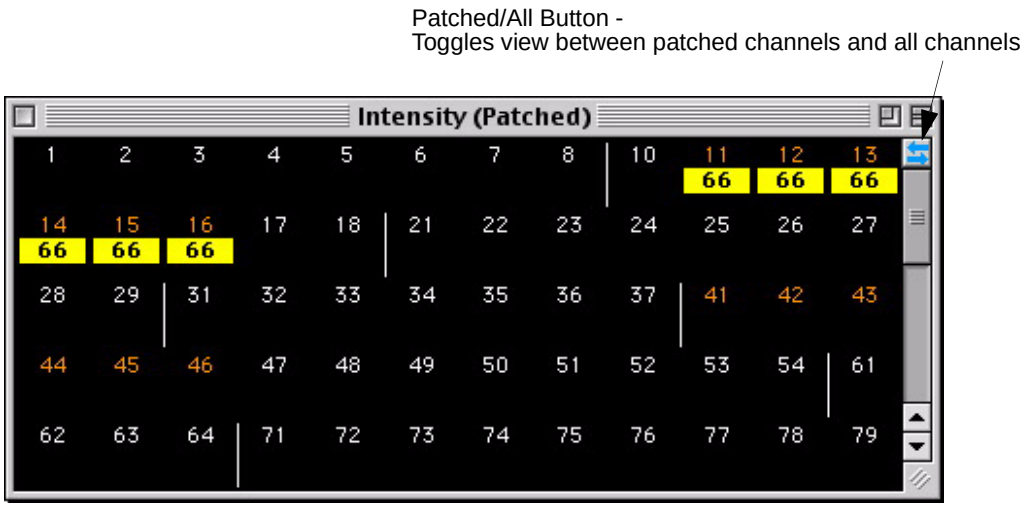


Intensity Window

The Intensity window can be used to view intensity values for all patched channels. Selections made at the Channel Select window or panel and/or command-line keypad are highlighted in the window and subsequent changes to intensity values are reflected in the display.

- At Operation menu, select Intensity. Using manual controls, change intensity values as required. Changes will be reflected in display.

Note: Command-I opens multiple copies of the Intensity window.



Color Coding

Color coding of the intensity values provides useful information regarding how the channels are changing from cue to cue, and if an intensity level comes from manual control or an effect. The coloring of channel numbers and intensity values provide the following indications:

- Selected channels are displayed in **orange**.
- While increasing intensity, the value changes to **blue**.
- While decreasing intensity, the value changes to **green**.
- Channels changed by manual control are displayed in **black on a yellow background**.
- Channels with the same cue intensity (tracking) are displayed in **pink**.
- Channels changed by an effect are displayed in **white on a black background**.

For example, if channels are brought up manually using an encoder, the channel numbers turn to gold to indicate the channel selection and the levels appear in reverse text, which highlights the fact that they are manually controlled. Next, if a cue is played back which overrides the intensity of these channels (HTP), the values would revert to normal text, but would be displayed in blue - refer to "HTP (Highest Takes Precedence)" on page 254. (If the cue does not override the intensity, they would remain in the manual control state color.) If another cue is played back in which the channels in blue fade down or out, they would change to green during the fade.

Configuring How Information is Displayed

In the window's default state, all patched channels are listed horizontally with a vertical line inserted between non-consecutive channel numbers.

User defined columns: All channels shown with unpatched channels grayed out, width of window can be changed to modify the number of channels displayed in each row, scroll bar allows access to all channels.

CHAPTER 5.

Select Displays

This chapter provides instructions for using the Select Displays feature.

- **General Operation**
- **Beams**
- **Colors**
- **Presets**
- **Groups**
- **Macros, Snapshots, and Effects**

General Operation

Overview

What are Selects?

A "select" is a pre-stored or user-defined set of parameters (presets, colors, beams), selections (groups, snapshots) or events (macros, effects). Selects can be used to simplify channel selection, manual control of luminaires, cue and effect creation, event recall, and to ensure consistency of cue parameters throughout the cue list.

Three select displays are provided on the console front panel and a Select Displays window is provided at the Panels menu for store and recall of Preset, Color, Beam, Group, Macro, Snapshot, and Effect selects.

Accessing Selects From Keypad

Parameters stored into the select banks can also be accessed from the command-line keypad. (Instructions for using the keypad are included in the appropriate sections on storing, modifying and recalling Beams, Colors, Groups, etc.) All storable select items have a discrete number which is used to access the feature from the keypad. Selects maintain this number, even when given another label. For example, if a focus parameter is stored into Preset 1 and relabeled as "Home", it would still be recalled at the keypad by pressing [Preset] [1] [Enter].

Standard Beams and Colors

The console is configured with a pre-stored set of standard Beam and Color palettes. You can use these defaults with your system or replace them with custom settings.

Standard Beam Palette

As a default, the Beam select provides standard static and rotating gobo wheel positions. The data (in this case, wheel positions) stored into the select display is referred to as a "palette."

Standard Color Palette

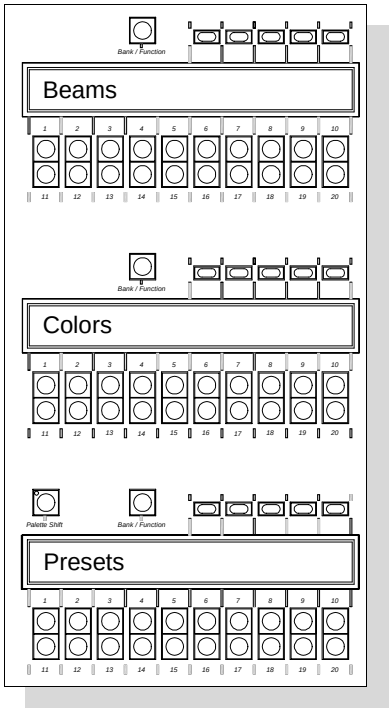
As a default, the Color select provides a standard palette of 80 colors, which can be used to apply color parameters to applicable luminaires.

The default color palette supports color mixes for VARI✳LITE luminaires only. These colors are not numbered according to the VARI✳LITE Color System. Colors can be applied using VARI✳LITE color numbers through the VL Color System window. Refer to the "VARI✳LITE Color System" chapter on page 103 for more information.

Note: Some DMX profiles have, as a default, the full frame wheel positions. Color mixing is not supported in the color palette as a default, but may be added to the palette as needed.

Panel Select Displays

Three select displays are located on the console's front panel. These can be used to access Preset, Color, Beam, Group, Macro, Snapshot, and Effect select functions.



20 select buttons (labeled 1 through 20) are provided at each display. These are used to activate the data stored the selects. (The last selected item will remain highlighted.)

As a default, BEAMS will be selected at the top display, COLORS at the middle display, and PRESETS at the bottom display.

Access a different page within a display:

Press desired page button (1 through 5) at top of select display.

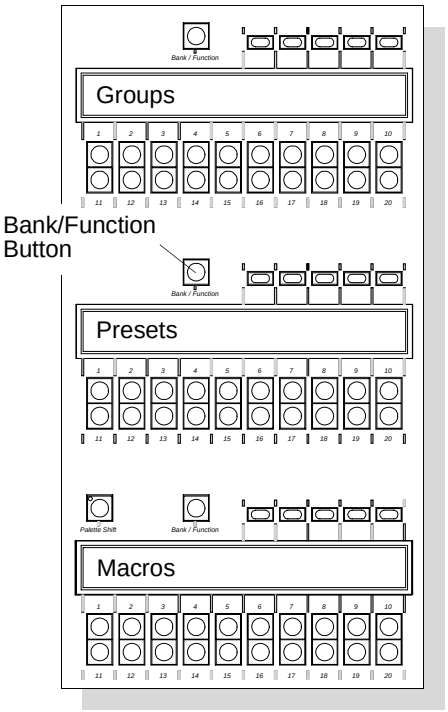
Access a different bank within a display:

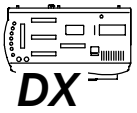
Press and hold [Bank/Function] button while pressing the buttons labeled [11] through [20] to change banks in increments of 100. Each bank will provide 20 select buttons per page.

Mapping Selects to Different Displays

The default function selections can be changed as required for any of the three displays.

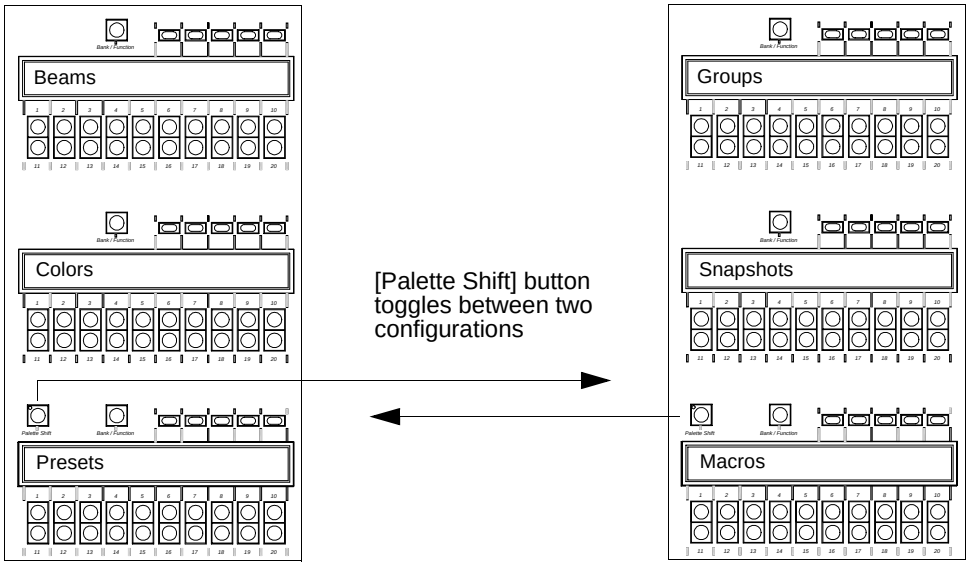
- At select display, press and hold [Bank/ Function] while pressing buttons 1-7 as required, which correspond to [Presets], [Colors], [Beams], [Groups], [Macros], [Snaps] (snapshots), or [Effects].





[Palette Shift] Button (Virtuoso DX)

The [Palette Shift] button allows toggling between two different select display configurations. For example, the first one could be the default selections, BEAMS, COLORS, and PRESETS. Pressing [Palette Shift] (highlighting button) would bring up GROUPS, SNAPSHOTS, and MACROS. Pressing [Palette Shift] again (deselecting button) would bring back BEAMS, COLORS, and PRESETS and vice versa. These two configurations can be changed as desired by mapping the selects to different display locations (see previous page).



Applying Selects

Apply a Beam:

Step 1. Select required luminaire(s) for manual control.

Step 2. Access required page by pressing any one of five page buttons next to the [Bank/Function] button.

Step 3. Press [Beam Select Button] for desired gobo. Selected luminaires will change.

Apply a Color:

Step 1. Select required luminaire(s) for manual control.

Step 2. At Colors select display, access required bank by pressing [Function/Bank] plus desired bank (1 through 3).

Step 3. Access required page by pressing any one of five page buttons next to the [Bank/Function] button.

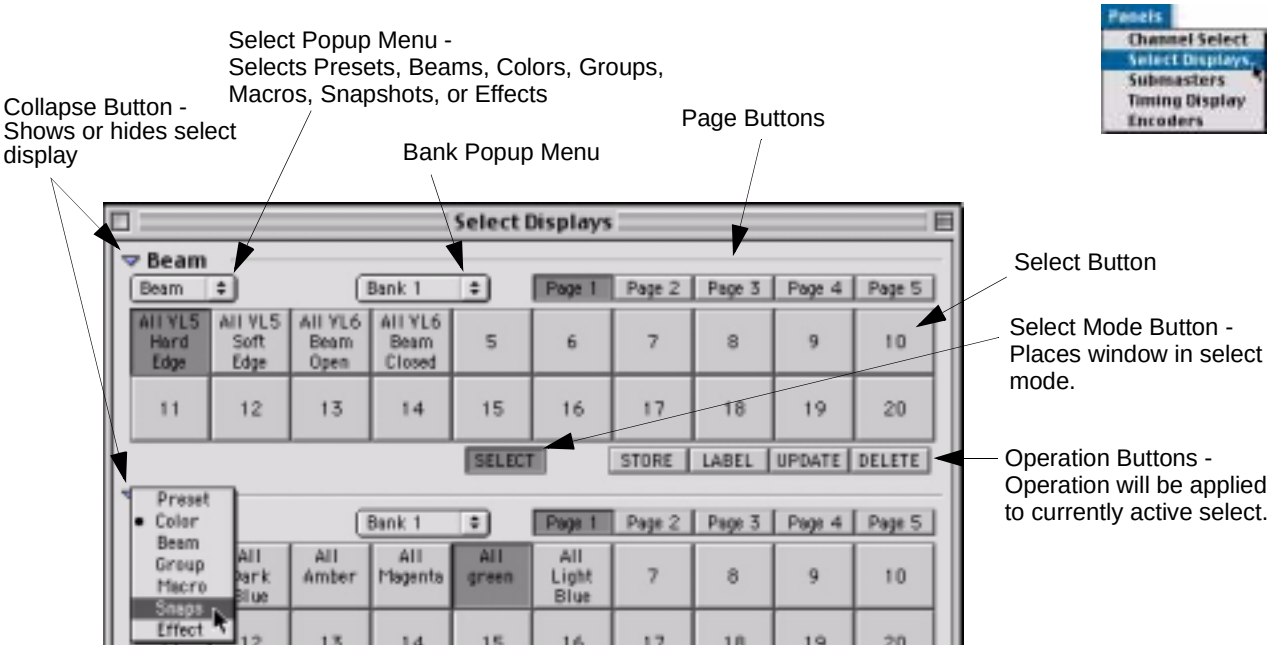
Step 4. Press [Color Select Button] of desired color. Selected luminaires will change.

Select Displays Window

The Select Displays window can be used to access Preset, Color, Beam, Group, Macro, Snapshot, and Effect select functions.

Three separate "select displays" are visible in the window at any one time. Each display's popup menu allows selection of Presets, Beams, Colors, Groups, Macros, Snapshots, and Effects which correspond to the select displays available on the console desk (refer to "Panel Select Displays" on page 77). Within each select display there are banks and pages which provide access to the total amount of selects available with any particular display.

- At Panels menu, choose Select Displays to open window.



Parameters, channel selections, and events can be stored into the selects by using the controls provided in the window or the command-line keypad. Individual selects can be labeled, stored, modified, and recalled as required.

The display can be placed in one of several modes. When a select is chosen, it will respond according to the currently selected mode:

- Select
- Store
- Label
- Update
- Delete

Store

The Store function allows you to save your own parameter settings into a select for recall at any time in the future.

Step 1. At popup menu, select function you wish to access (Group, Color, Beam, etc.).

Step 2. At Bank popup menu, select required bank.

Step 3. Click required Page button.

Step 4. Click STORE.

Step 5. Click [Select Button] where you wish to store data. For example, select 10.

Label

The Label function allows you to label individual selects.

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Click LABEL.

Step 2. Click [Select Button] where you wish to store data.

Step 3. At computer keyboard, type label, use [Tab] to move among lines of text, and press [return].

Update

The Update function allows you to update the data which was originally stored in the select. (The label will be retained so that you will not have to re-enter it after an update.)

Step 1. At popup menu, select function you wish to access (Group, Color, Beam, etc.).

Step 2. At Bank popup menu, select required bank.

Step 3. Click required Page button.

Step 4. Click UPDATE.

Step 5. Click [Select Button] of select you wish to update. Data will be updated according to new settings.

Note: Operation buttons only apply to the select display directly above the buttons.

Delete

The Delete function allows you to remove all data from a select. Once deleted, the select will be "empty."

Step 1. At popup menu, select function you wish to access (Group, Color, Beam, etc.).

Step 2. At Bank popup menu, select required bank.

Step 3. Click required Page button.

Step 4. Click DELETE.

Step 5. Click [Select Button] of select you wish to delete. Select will now be empty.

5

Note: For deleting presets, all channels stored in the preset must be selected.

Select

The Select feature allows you to apply data to channels.

Note: Pressing any select buttons on the console will automatically place the top select display in Select Mode.

Step 1. Select channels to receive command (refer to "Selecting Channels" on page 50).

Step 2. At popup menu, select function you wish to access (Group, Color, Beam, etc.).

Step 3. At Bank popup menu, select required bank.

Step 4. Click required Page button.

Step 5. Click [Select Button] of select whose parameters you wish to apply.

Beams

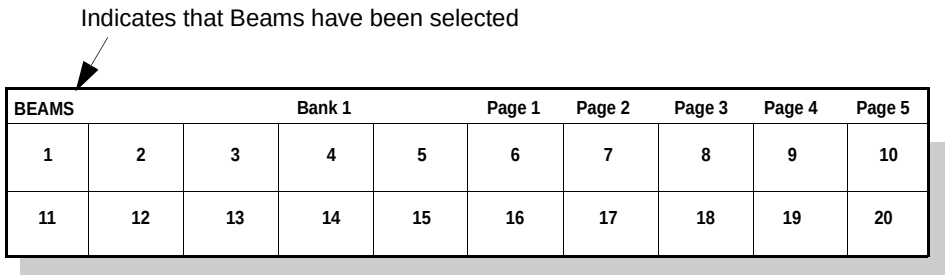
Overview

The Beam select provides a means for storing and recalling a palette of up to 100 beam states. These can be used for building cues and effects. As a default, Beams may contain standard, static and rotating gobo wheel positions, however it is possible to store your own Beams over the defaults and relabel as required. These programmable Beams can include parameters such as beam (zoom, shutter, framing), edge (frost, effect, prism), and gobo (static, rotating, index, effects, effects rotation) as determined by the beam edge and gobo filter settings (refer to "Filter Mode" on page 159).

Beams are stored by luminaire types. This means that for any one luminaire type, only one Beam setting can be stored in a single Beam select. For example, a select can store different settings for VL5 and VL6 luminaires, but multiple settings cannot be stored for multiple VL5 luminaires. During a store operation, the beam parameters stored will be drawn from either the lowest *active* luminaire or lowest *selected* luminaire as determined by the console's default setting (refer to "Settings Window" on page 258).

Beam Select Guidelines:

- Beams are not linked to Presets or cues. This means that if a certain Beam was used when creating a Preset or cue and a new Beam is stored into that select, then this will not affect the Beam stored in the Preset or cue.
- Parameters stored into a Beam select are always determined by the filters.
- Timing values cannot be stored in Beams.



Beam Palette Data Window

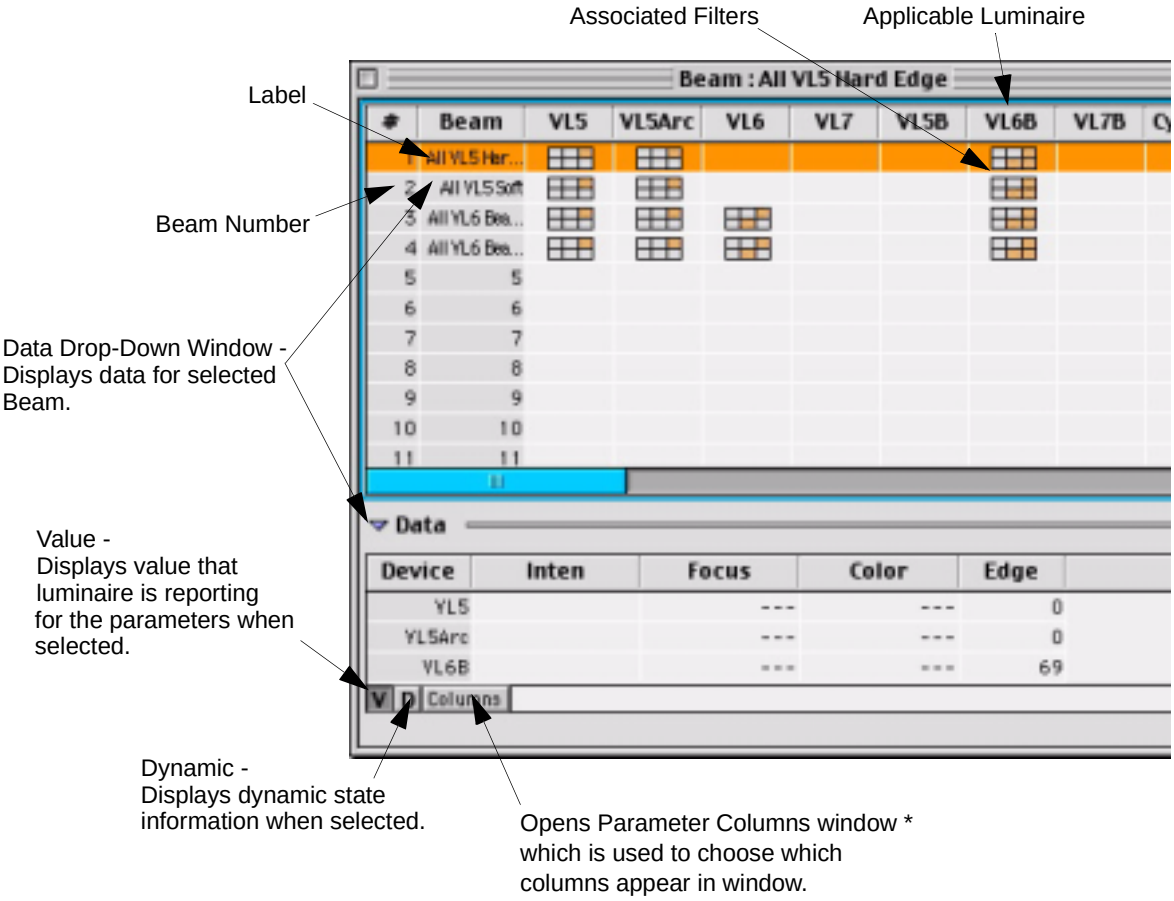
Beam data can be viewed in the Beam Palette Data window.

The top portion of the window shows the beam list, along with all associated filters which have been stored into the Beam select. In addition, by selecting a single Beam and clicking on the Data drop-down window button, all of its parameter data can be viewed.

The Value (V) button will display the numeric value which has been stored into each parameter. The Dynamic (D) will display any associated dynamic state information. The "V" and "D" toggle buttons allow you to display one or both types of information in the window.

Open Beam Palette Data window:

- At Data menu, select Beam Palette Data.


Associated Filters
Applicable Luminaire
Label
Beam Number
Data Drop-Down Window - Displays data for selected Beam.
Value - Displays value that luminaire is reporting for the parameters when selected.
Dynamic - Displays dynamic state information when selected.
Opens Parameter Columns window * which is used to choose which columns appear in window.
Beam : All VL5 Hard Edge
Beam VL5 VL5Arc VL6 VL7 VL5B VL6B VL7B
Data
Device Inten Focus Color Edge
VL5 --- --- 0
VL5Arc --- --- 0
VL6B --- --- 69
V D Columns

* Refer to "Parameter Columns Window" on page 72.

Storing, Modifying, and Recalling Beams

Note: Beams and colors are global settings by luminaire type. The console will draw data from either lowest active or lowest selected channel as determined by the console's default settings (refer to "Settings Window" on page 258). The "lowest active" setting draws data from the lowest channel number with intensity of that type, regardless of selection. The "lowest selected" setting draws data from the lowest selected channel number of that type, regardless of intensity state.

From Panel Select Displays

Hint For all storable items, the default label (number) will move from the middle to the top line of the select display when something has been stored in that select.

Store a new Beam using Beams select display:

Step 1. Select required channels.

Step 2. Ensure Beams are selected on at least one select display.

Step 3. Using manual controls, set all required parameters.

Step 4. Filter attributes as required using touch screen display in Filter mode.

Step 5. Press [Store] / [Beam Select Button] *or* [Store] [Label] / [Beam Select Button] [xxxxxx] [return].

Note: Parameters stored into a Beam select are always determined by the filters (refer to "Filter Mode" on page 159).

Store a new Beam using command-line keypad:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using touch screen display.

Step 4. Press [Store] [Beam] [n] [Enter] *or* [Store] [Beam] [n] [Label] [Enter] [xxxxxx] [return] (where n is the discrete Beam number).

Label an existing Beam, page, or bank:

Note: When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Ensure Beams are selected on at least one select display.

Step 2. Press [Label] / [Beam Select Button] [xxxxxx] [return] *or*
[Label] / [Page Select Button] [xxxxxx] [return] *or*
[Label] / [Bank Select Button] [xxxxxx] [return] as required.

Add a new luminaire type to a Beam:

If you are modifying a Beam by storing a new type of luminaire(s), then the new data will be added to the existing data.

Step 1. Select required channel(s). (The channel should contain at least one different luminaire type than currently stored in the Beam.)

Step 2. Ensure Beams are selected on at least one select display.

Step 3. Using manual controls, set all required parameters.

Step 4. Filter attributes as required using touch screen display in Filter mode.

Step 5. Press [Store] / [Beam Select Button] *or* [Store] [Label] / [Beam Select Button] [xxxxxx] [return].

Modify Beam data for an existing luminaire type:

If you are modifying a Beam with data from the same type of luminaire, then the data will be replaced.

Step 1. Select required channel(s). (The channel should contain the same luminaire type as currently stored in the Beam.)

Step 2. Ensure Beams are selected on at least one select display.

Step 3. Using manual controls, set all required parameters.

Step 4. Filter attributes as required using touch screen display in Filter mode.

Step 5. Press [Store] / [Beam Select Button] *or* [Store] [Label] / [Beam Select Button] [xxxxxx] [return].

Delete a Beam:

- [Delete] [Beam] [n] [Enter] *or*
  [Delete] / [Beam Select Button]. The display will now show this as an "empty" Beam select.

Note: This action will delete beam data for all types included in beam select.

Note: Since Beam selects store data according to luminaire types, if a Beam is recalled which has no data for that luminaire type, then the channel will remain in its previous state. When recalled, Beams are not routed through the filters.

Recall a Beam using Beams select display:

Step 1. Select required channels (only selected channels of types that have data stored in that beam state will be affected).

Step 2. Ensure Beams are selected on at least one select display.

Step 3. Press required [Beam Select Button].

Recall a Beam using command-line keypad:

Step 1. Select required channels (only selected channels of types that have data stored in that Beam will be affected).

Step 2. Press [Beam] [n] [Enter] (where n is the discrete Beam number).

From Select Displays Window

When storing or modifying Beams from the Select Displays, first select channels of types to be stored in the Beam select (refer to "Selecting Channels" on page 50). Filter parameters as required and adjust with manual control functions.

To store, label, update, delete, and recall Beams, refer to the procedures given in "Select Displays Window" on page 80.

From Keypad

Store a new Beam:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using Filter Display window.

Step 4. Press [Store] [Beam] [n] [Enter] *or* [Store] [Beam] [n] [Label] [Enter] [xxxxxx] [return] (where n is the discrete Beam number).

Add new types to a Beam:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using Filter Display window.

Step 4. Press [Store] [Beam] [n] [Enter] *or* [Store] [Beam] [n] [Label] [Enter] [xxxxxx] [return] (where n is the discrete Beam number).

Delete a Beam:

Step 1. [Delete] [Beam] [n] [Enter]. The display will now show this as an "empty" Beam.

Recall a Beam:

Step 1. Select required channels (only selected channels that have data stored in that Beam will be affected).

Step 2. Press [Beam] [n] [Enter] (where n is the discrete Beam number).

Colors

Overview

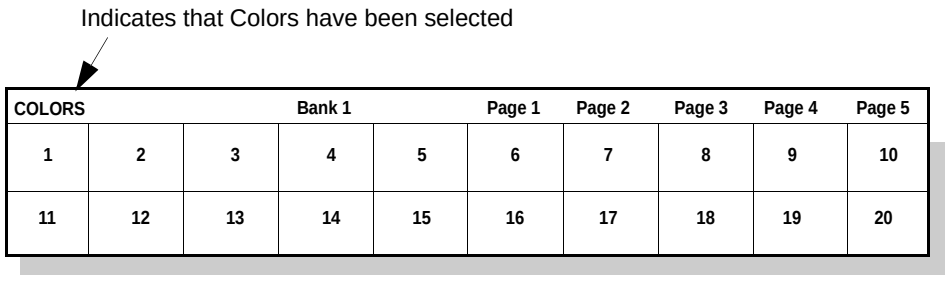
The Color select provides a means for storing and recalling a palette of up to 300 colors. These can be used for building cues and effects. As a default, the Color select may contain a palette of 80 default colors, however it is possible to store your own Colors over the defaults and relabel as required.

Color (like Beams) are stored by luminaire types. This means that for any one luminaire type, only one Color setting can be stored in a single Color select. For example, a select can store different colors for VL5 and VL6 luminaires, but multiple colors cannot be stored for multiple VL5 luminaires. During a store operation, the color parameters stored will be drawn from either the lowest *active* luminaire or lowest *selected* luminaire as determined by the console's default setting (refer to "Settings Window" on page 258).

Note: The default color palette supports color mixes for VARI✳LITE luminaires only. These colors are not numbered according to theVARI✳LITE Color System. Colors can be applied using VARI✳LITE color numbers through the VL Color Data window. Refer to the "VARI✳LITE Color System" chapter on page 103 for more information.

Color Select Guidelines:

- Colors are not linked to Presets or cues. This means that if a certain Color select was used when creating a cue and a new color is stored into that select, then this will not affect the color stored in the Preset or cue.
- Parameters stored into a Color select are filtered only when the console's default setting is configured to do so (refer to "Settings Window" on page 258).



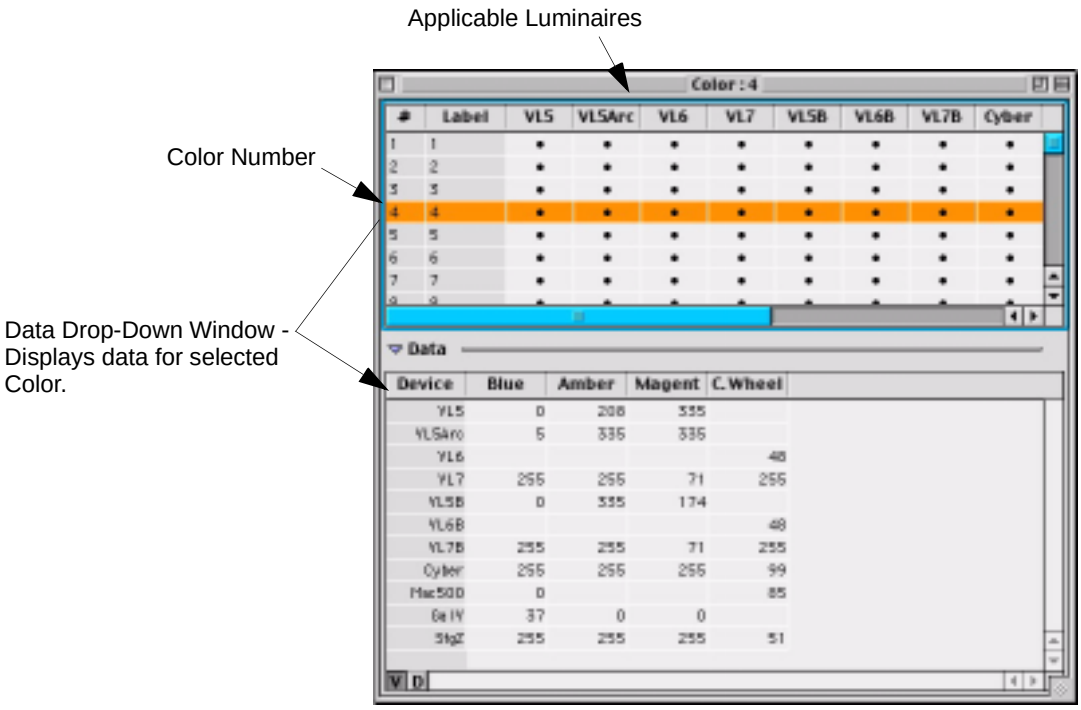
Color Palette Data Window

Color data can be viewed in the Color Palette Data window.

The top portion of the window shows the color list, along with all applicable luminaires. In addition, by selecting a single color and clicking on the Data drop-down window button, all of its numeric values can be viewed.

Open Color Palette Data window:

- At Data menu, select Color Palette Data.



Storing and Recalling Colors

Note: Beams and colors are global settings by luminaire type. The console will draw data from either lowest active or lowest selected channel as determined by the console's default settings (refer to "Settings Window" on page 258). The "lowest active" setting draws data from the lowest channel number with intensity of that type, regardless of selection. The "lowest selected" setting draws data from the lowest selected channel number of that type, regardless of intensity state.

From Panel Select Displays

Store a new color using Colors select display:

Step 1. Ensure color you wish to store is displayed in lowest *active* luminaire channel (for each luminaire type), if the default "lowest active channel" has not been changed (refer to "Settings Window" on page 258).

Step 2. Ensure Colors are selected on at least one select display.

Step 3. Select required bank and select page.

Step 4. Press [Store] / [Color Select Button].

Store a new color using command-line keypad:

Step 1. Ensure color you wish to store is displayed in lowest *active* luminaire channel (for each luminaire type), if the default "lowest active channel" has not been changed (refer to "Settings Window" on page 258).

Step 2. Press [Store] [Color] [n] [Enter] (where n is the discrete Color number).

Label an existing color, page, or bank:

Note: When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Ensure Colors are selected on at least one select display.

Step 2. Press [Label] / [Color Select Button] [xxxxxx] [return] *or*
[Label] / [Page Select Button] [xxxxxx] [return] *or*
[Label] / [Bank Select Button] [xxxxxx] [return] as required.

Recall a color using Colors select display:

Step 1. Select required channels.

Step 2. Ensure Colors are selected on at least one select display.

Step 3. Press required [Color Select Button].

Recall a color using command-line keypad:

Step 1. Select required channels.

Step 2. Press [Color] [n] [Enter] (where n is the discrete Color number).

Note: Channels that are selected during a color recall that have no value for that color will remain in their current state.

From Select Displays Window

When storing or modifying Colors from the Select Displays, first select channels to be stored in the Color select (refer to "Selecting Channels" on page 50).

To store, label, update, delete, and recall Colors, refer to the procedures given in "Select Displays Window" on page 80.

From Keypad

Store a new Color:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Press [Store] [Color] [n] [Enter] *or* [Store] [Color] [n] [Label] [Enter] [xxxxxx] [return] (where n is the discrete Color number).

Delete a Color:

- [Delete] [Color] [n] [Enter]. The display will now show this as an "empty" Color.

Note: This action will delete color information for all types stored.

Recall a Color:

Step 1. Select required channels (only selected channels that have data stored in that Color will be affected).

Step 2. Press [Color] [n] [Enter] (where n is the discrete Color number).

Presets

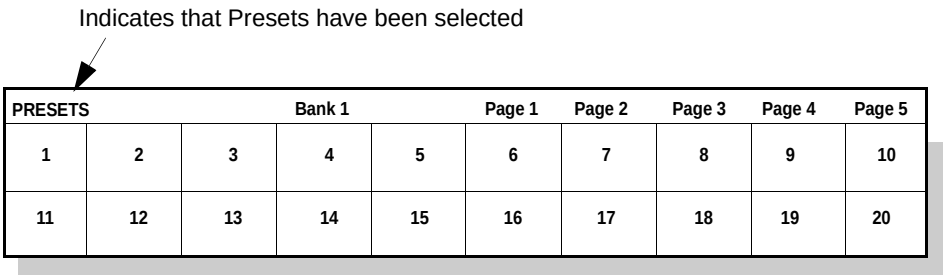
Overview

Preset selects are used to store specific luminaire parameters for the purpose of building cues. Typically, a Preset will contain focus (pan/tilt) information only, but with the Virtuoso console any desired parameter (including timing) can be stored in a Preset as determined by the filter settings. The touch screen display is used to control the filters (refer to "Filter Mode" on page 159).

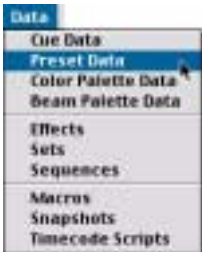
Since focus is a large part of the Preset feature, no standard pre-programmed Presets are available. These will need to be stored in relation to the specific requirements of your show.

Features:

The most important feature of Presets is that they are referenced by cues. This feature provides a way of saving time during the initial programming of a show and for updating focuses or other parameters throughout all of your cues if something on stage changes. For example, a Preset may be stored as a focus reference cue in which only pan and tilt parameters are specified. These could be labeled Stage Center, Stage Right, Stage Left, etc. When you use a Preset to build a cue, the Preset information is linked directly to that cue. If a refocus is required, the appropriate Preset could be changed and all the cues built using it would automatically reflect the change.



Preset Data Window



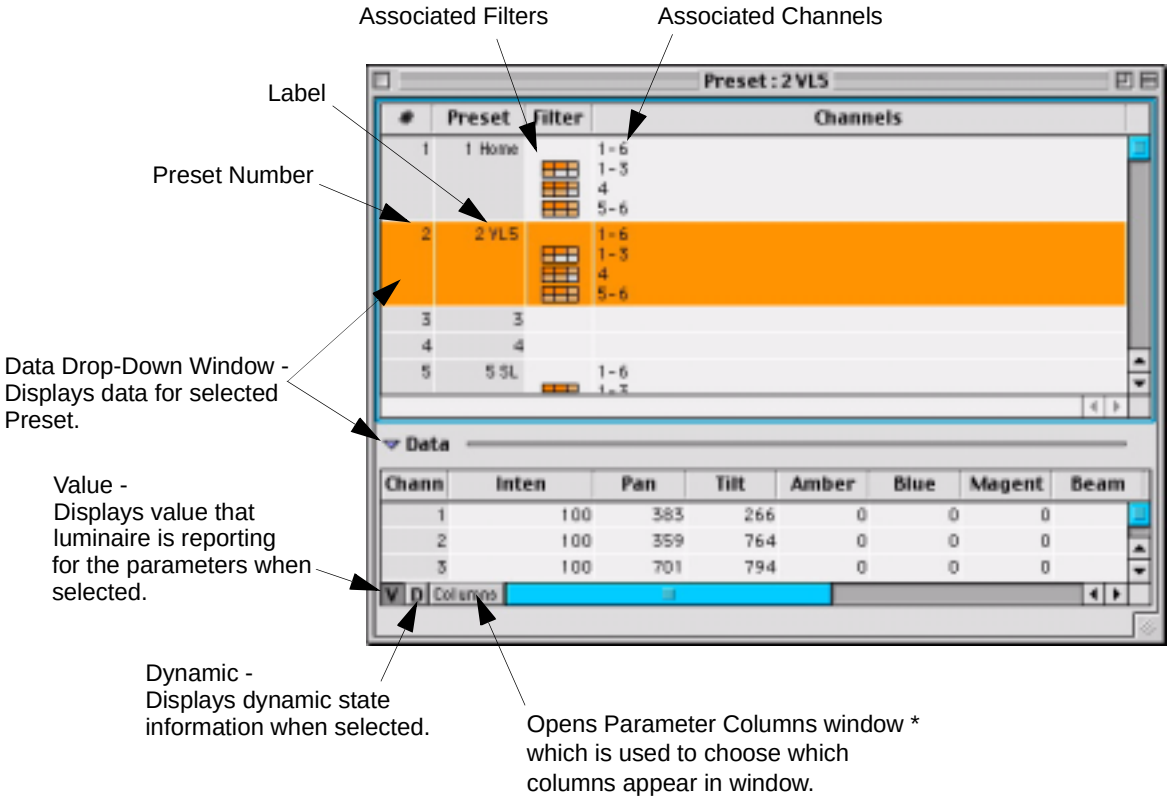
Preset data can be viewed in the Preset Data window.

The top portion of the window shows the Preset list, along with all associated labels, channels, and filters which have been stored into the Presets. In addition, by selecting a single Preset and clicking on the Data drop-down window button, all its parameter data can be viewed.

The Value (V) button will display the numeric value which has been stored into each parameter. The Dynamic (D) will display any associated dynamic state information. The "V" and "D" toggle buttons allow you to display one or both types of information in the window.

Open Preset Data window:

- At Data menu, select Preset Data.



* Refer to "Parameter Columns Window" on page 72.

Storing, Modifying, and Recalling Presets

From Panel Select Displays

Note: When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Store a new preset using Presets select display:

Step 1. Select required channels.

Step 2. Ensure Presets are selected on at least one select display.

Step 3. Using manual controls, set all required parameters.

Step 4. Filter attributes as required using touch screen display.

Step 5. Press [Store] / [Preset Select Button] *or* [Store] [Label] / [Preset Select Button] [xxxxxx] [return].

Store a new preset using command-line keypad:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using touch screen display.

Step 4. Press [Store] [Preset] [n] [Enter] *or*
[Store] [Preset] [n] [Label] [xxxxxx] [return] (where n is the discrete Preset number).

Label an existing Preset select:

Step 1. Ensure Presets are selected on at least one select display.

Step 2. Press [Label] / [Preset Select Button] [xxxxxx] [return].

Add new channels to a Preset:

If a Preset is already stored, the [Store] command can add new channels to that Preset, provided those channels are selected. If the channel already has data for the Preset, that data will be overwritten with current data.

Step 1. Select required channels.

Step 2. Ensure Presets are selected on at least one select display.

Step 3. Press [Store] / [Preset Select Button] *or* [Store] [Label] / [Preset Select Button] [xxxxxx] [return].

Modify parameters using Selective Store:

The Selective Store command modifies parameter data for selected channels as determined by any filter settings. For more information, refer to "Selective Store" on page 217.

Step 1. At touch screen display, modify filter settings as required.

Step 2. Select required channels.

Step 3. Press [Sel Store] / [Preset Select Button] *or* [Sel Store] [Preset] [n] [Enter] (where n is the discrete Preset number).

Update a preset:

The [Update] command does not add channels, but modifies any stored data that has been changed by manual control for channels and parameters associated with that Preset. It does not route through the filter settings. For more information, refer to "Update" on page 216.

Step 1. Make changes by manual control.

Step 2. Press [Update] / [Preset Select Button] *or* [Update] [Preset] [n] [Enter] (where n is the discrete Preset number).

Delete an entire Preset:

Step 1. Select all channels in that Preset.

Step 2. [Delete] [Preset] [n] [Enter] (where n is the discrete preset number) *or* [Delete] / [Preset Select Button]. The display will now show this as an "empty" Preset.

Note: Unexpected behavior may occur for cues referencing a deleted preset. Cues will be played back with intensity at *zero* for channels that reference a deleted preset. This acts as a warning that cue data is incomplete. To verify this has happened, check the console log window available from the Setup menu.

Delete a specific channel's Preset data:

Step 1. Select channels you wish to remove from a Preset.

Step 2. [Delete] [Preset] [n] [Enter] (where n is the discrete preset number) *or* [Delete] / [Preset Select Button].

Recall a preset using Presets select display:

Step 1. Select required channels (only selected channels that have data stored in that preset will be affected).

Step 2. Ensure Presets are selected on at least one select display.

Step 3. Press required [Preset Select Button].

Recall a preset using command-line keypad:

Step 1. Select required channels (only selected channels that have data stored in that Preset will be affected).

Step 2. Press [Preset] [n] [Enter] (where n is the discrete Preset number).

Recall specific preset data:

Note: For more information, refer to "Selective Recall" on page 218.

Step 1. At touch screen display, select Filter mode. Using touch screen, select parameters to be recalled.

Step 2. Select channel(s) as required.

Step 3. Press [Recall] [Preset] [n] [Enter] *or* [Recall] [Preset Select Button]. All stored data will be recalled from the specified preset (n), as defined by the selections on the filters.

From Select Displays Window

When storing or modifying Presets from the Select Displays, first select channels to be stored in the Preset select (refer to "Selecting Channels" on page 50). Filter parameters as required and adjust with manual control functions.

To store, label, update, delete, and recall Presets, refer to the procedures given in "Select Displays Window" on page 80.

From Keypad

Note: All Presets have a discrete number which is used when accessing Presets from the keypad. Presets maintain this number, even when given another label.

Store a new Preset:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using Filter Display window.

Step 4. Press [Store] [Preset] [n] [Enter] *or* [Store] [Preset] [n] [Label] [xxxxxx] [return] (where n is the discrete Preset number).

Add new channels to a Preset:

Step 1. Select required channels.

Step 2. Press [Store] [Preset] [n] [Enter] *or* [Store] [Preset] [n] [Label] [xxxxxx] [return] (where n is the discrete Preset number).

Delete a Preset:

Step 1. Select all channels in that Preset select.

Step 2. [Delete] [Preset] [n] [Enter]. The display will now show this as an "empty" Preset.

Recall a Preset:

Step 1. Select required channels (only selected channels that have data stored in that Preset will be affected).

Step 2. Press [Preset] [n] [Enter] (where n is the discrete Preset number).

Groups

Overview

To automate channel selection, groups of channels may be stored into the Group selects available in the panel Select Displays, Select Displays window, or Group Select portion of the Channel Select panel (Virtuoso only). Groups can also be created and recalled from the command-line keypad.

For example, you could store all VL5 luminaires as one group, all VL6 luminaires as another group, etc. These groups can be labeled in the group select bank as VL5 and VL6 or perhaps, Wash and Spot.

Storing, Modifying, and Recalling Groups

Note: When an existing Group is updated or re-stored, the new information replaces the old information. It does not add to the existing group information.

From Panel Select Displays

Store a group:

Step 1. Select channels to be stored in group (refer to "Selecting Channels" on page 50).

Step 2. Access required Bank and Page.

Step 3. Press [Store] / [Group Select Button] *or* [Store] [Label] / [Group Select Button] [xxxxxx] [return]

Label a group:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] / [Group Select Button] [xxxxxx] [return].

Recall a group:

Step 1. Access required Bank and Page.

Step 2. Press required [Group Select Button].

Recall two or more groups:

Step 1. Access required Bank and Page of first group.

Step 2. Press required [Group Select Button].

Step 3. Access required Bank and Page of second group.

Step 4. Press required [Group Select Button] of second group. Hold down [Page Button] to pile-on selections.

Step 5. Repeat Steps 3 and 4 as required.

Modify a group:

Modifications to existing groups can be done in the same manner as storing the original group as given above.

From Select Displays Window

When storing or modifying Groups from the Select Displays, first select channels to be stored in the Group (refer to "Selecting Channels" on page 50).

To store, label, update, delete, and recall groups, refer to the procedures given in "Select Displays Window" on page 80.

From Keypad

Store a Group:

Step 1. Select channels to be stored in group (refer to "Selecting Channels" on page 50).

Step 2. Press [Store] [Group] [n] [Enter].

Modify a Group:

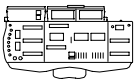
Modifications to existing Groups can be done in the same manner as storing the original Group given above.

Recall a Group:

The following are samples of possible command-line entries to recall a group.

- [Group] [n] [Enter] - selects all channels in Group n.
- [Group] [n] [+] [m] [Enter] - selects all channels in Group n plus Channel m.
- [Group] [n] [+] [Group] [m] [Enter] - selects all channels in Group n and Group m.

Groups can be stored, modified, and recalled using the Group Select panel, command-line keypad, and/or soft select displays.



From Group Select Panel (Virtuoso Console)

Store a group:

Step 1. Select channels to be stored in group (refer to "Selecting Channels" on page 50).

Step 2. Access required Bank and Page.

Step 3. Press [Store] / [Group Select Button].

Label a group:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] / [Group Select Button] [xxxxxx] [return].

Recall a group:

Step 1. Access required Bank and Page.

Step 2. Press required [Group Select Button].

Recall two or more groups:

Step 1. Access required Bank and Page of first group.

Step 2. Press required [Group Select Button].

Step 3. Access required Bank and Page of second group.

Step 4. Press required [Group Select Button] of second group. (Hold down [Page Button] to pile-on selections.)

Step 5. Repeat Steps 3 and 4 as required.

Modify a group:

Modifications to existing groups can be done in the same manner as storing the original group as given above.

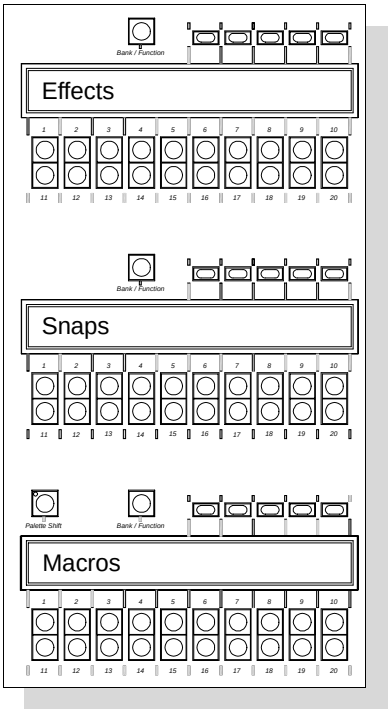
When an existing group is re-stored, the new information replaces the old information. It does not add to the existing group information.

Macros, Snapshots, and Effects

Overview

Macros, snapshots, and effects can also be accessed at the panel select displays or the Select Displays window once you have stored them. As with presets, colors, beams, and groups their labels will appear in the window and selecting the corresponding select button will recall the event. Instructions for storing and recalling these types of events are covered in this manual as follows:

- "Basic Effects" chapter on page 123.
- "Snapshots" on page 188.
- "Macros" on page 193.



CHAPTER 6.

VARI*LITE Color System

This chapter provides instructions for applying VARI*LITE system colors to both VARI*LITE and DMX-controllable luminaires.

- **Color Control**
- **Applying VARI*LITE Colors**
- **VARI*LITE Color System Charts**

Color Control

Overview

As mentioned in the previous chapter, color can be controlled by the encoders, Color Select Display, and the keypad. In addition, the Vari-Lite Color System window is available for applying colors from the VARI✳LITE Color System to the luminaires. This window operates independently from the colors that may be available in the Color Selects, giving you another way to quickly apply colors.

VARI✳LITE Colors

The VARI✳LITE Color System is a unique system of colors, each of which has a discrete number associated with it. When applied from the console, VARI✳LITE luminaires capable of achieving that color would assume the color whether their color mechanism is a filter wheel, crossfadeable plates, or rotating filters. Some DMX luminaires have been added to the VARI✳LITE color system. This system allows consistent color matching across all types of luminaires.

The VARI✳LITE Color System window is a logical listing of color names and gel numbers that can be selected and displayed from selected luminaires. The listing contains the color name, VARI✳LITE ID number, and gel number equivalent which is used throughout the lighting industry. Refer to "VARI✳LITE Color System Charts" on page 107 for a complete listing of VARI✳LITE colors and their equivalents.

Applying VARI✳LITE Colors

From VL Color System Window

Using the VARI✳LITE Color System window, you can select a specific color either by its VARI✳LITE color name or number, or by gel number and have all luminaires able to achieve that color go to that color. When colors are sent, luminaires able to achieve the color will do so. Luminaires unable to achieve the color will go to black, except for VL6 luminaires, which go to white. The window uses the following graphics to indicate luminaire compatibility with any given color:

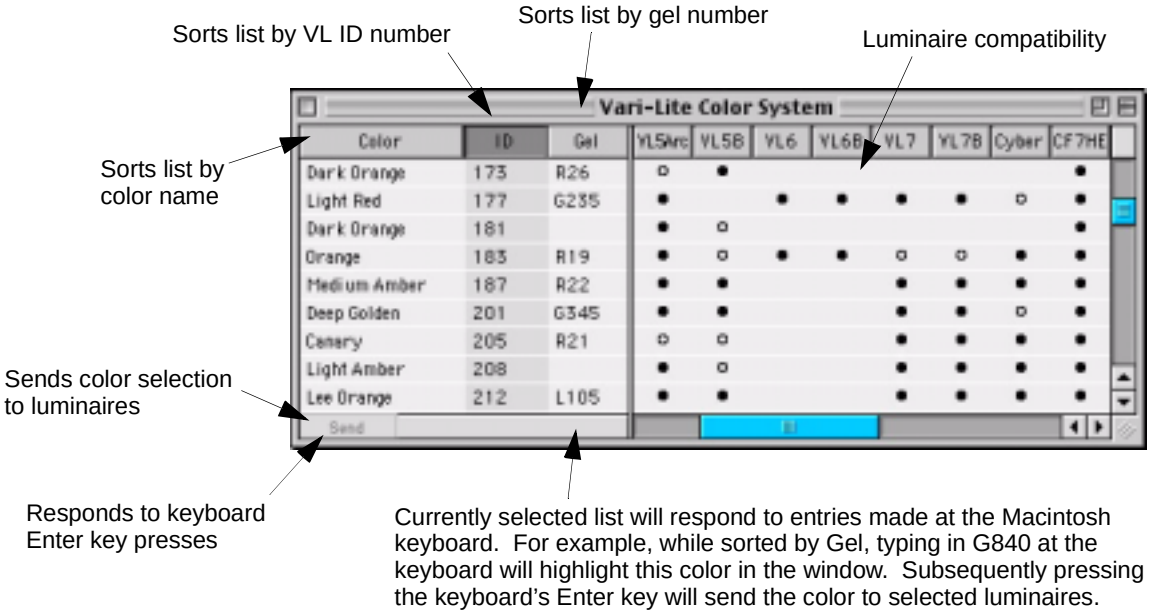
- A black, filled circle indicates that the luminaire can match the color.
- A white, unfilled circle indicates that the luminaire can almost match the color.
- A blank cell indicates that the color is unattainable by the luminaire.

Colors achieved initially through the VL color system can also be stored in the Color select palette (refer to "Storing and Recalling Colors" on page 91).

Open VARI✳LITE Color System window:

- At Operation menu, select VL Color System.

Note: Color matching for DMX fixtures is done by fixture type, e.g., CYB for Cyberlight fixtures in all modes, etc.


Sorts list by VL ID number
Sorts list by gel number
Luminaire compatibility
Vari-Lite Color System
Color
ID
Gel
VL5Arc
VL5B
VL6
VL6B
VL7
VL7B
Cyber
CF7HE
Dark Orange 173 R26
Light Red 177 G235
Dark Orange 181
Orange 183 R19
Medium Amber 187 R22
Deep Golden 201 G345
Canary 205 R21
Light Amber 208
Lee Orange 212 L105
Send
Sorts list by color name
Sends color selection to luminaires
Responds to keyboard Enter key presses
Currently selected list will respond to entries made at the Macintosh keyboard. For example, while sorted by Gel, typing in G840 at the keyboard will highlight this color in the window. Subsequently pressing the keyboard's Enter key will send the color to selected luminaires.

Send colors using window only:

Step 1. Select required channels.

Step 2. Using cursor, select color choice.

Step 3. Click Send button (or just double-click on color choice). Luminaires able to achieve the color will do so. Luminaires unable to achieve color will go to black, except for VL6 luminaires, which go to white.

Send colors using window and keyboard:

Step 1. Select required channels.

Step 2. Using cursor, sort list by Color, ID, or Gel.

Step 3. At keyboard type in first few letters of color, ID number, or Gel number. Selection will be highlighted in window.

Step 4. Press keyboard [Enter] button to send.

From Keypad

The command-line keypad can also be used to assign VARI✳LITE colors to selected luminaires. The color number entered on the keypad corresponds to the colors listed in the VARI✳LITE Color System Charts starting on the next page.

Examples:

- <Chan> [n] [Vari-Lite Color] [m] [Enter] - applies VARI✳LITE color m to the selected channel n (where m is the discrete color number).
- <Chan> [n] [Thru] [q] [Vari-Lite Color] [m] [Enter] - applies VARI✳LITE color m to the selected range of channels (where m is the discrete color number).

VARI*LITE Color System Charts

VL Color System for VARI*LITE Luminaires

Note: Numbers in the VL6/VL6B column correspond to VARI*LITE color wheel filters available by special order.

Table 6-1: VARI*LITE Color System for VARI*LITE Luminaires

Color Name	VL No.	Similar To	VL2C	VL4	VL5	VL5A	VL5B	VL6/ VL6B	VL7/ VL7B
Pink Tint	101	Lux 55		Match		Match	Almost	350	Match
Bastard Amber	103	Lux 02		Match	Match	Match	Match		Match
GAM Bastard Amber	104	GAM 325		Match	Match	Match	Match		Match
Warm Bastard Amber	105	Lee 162		Match	Match	Match	Match	360	Match
Pale Golden Amber	107	Lux 09		Almost	Match	Match	Match		Match
Light Amber	110	Lux 16 Lee 204		Match	Match	Almost	Match		Match
Light Flame	112	Lux 17		Match	Match	Almost	Almost		Match
Medium Bastard Amber	115	Lux 04		Almost	Match	Match	Match		Match
Dark Bastard Amber	116	Lux 03			Match	Almost	Match		Match
Warm Amber	122	Lee 176 Lux 01		Match	Match	Match	Match		Match
Peach	125	GAM 320		Almost	Match	Almost	Match		Match
Flesh Pink	131	Lux 34		Match	Match	Match	Match		Match
Dark Pink	134	Lee 111		Match	Match	Match	Match		Match
Medium Salmon	136	Lux 32		Match	Match	Almost	Match		Match
Salmon	138	Lux 41		Match	Match	Match	Match		Match
Brite Pink	141	Lee 128		Match	Match	Almost	Almost		Match
Dark Peach	145			Match	Match	Match			Match
Lee Magenta	149	Lee 113		Match	Almost	Match			Almost
Dark Salmon	151			Match	Almost	Almost			Match
Deep Salmon	155			Match	Match	Match			
Dark Red	161		Match						
Medium Red	164	Lux 27	Match	Match	Match	Match	Match		
Primary Red	168	Lee 106	Match	Almost	Match	Match	Match		
Dark Orange	173	Lux 26	Match	Match	Match	Almost	Match		
Light Red	177	GAM 235		Match	Match	Match		Match	Match
Dark Orange	181		Match	Match	Match	Match	Almost		

Table 6-1: VARI✳LITE Color System for VARI✳LITE Luminaires (Continued)

Color Name	VL No.	Similar To	VL2C	VL4	VL5	VL5A	VL5B	VL6/ VL6B	VL7/ VL7B
Orange	183	Lux 19 Lee 164	Match	Match	Match	Match	Almost	Match	Almost
Medium Amber	187	Lux 22	Almost	Match	Match	Match	Match		Match
Deep Golden Amber	201	GAM 345	Almost	Match	Match	Match	Match	430	Match
Canary	205	Lux 21	Almost	Match	Match	Almost	Almost		Match
Light Amber	208		Match	Match	Match	Match	Almost		Match
Lee Orange	212	Lee 105	Match	Match	Match	Match	Match		Match
Chrome Orange	214	Lux 15 Lee 179	Match	Match	Match	Match	Match	410	Match
Bright Yellow	219		Almost	Almost	Match	Match	Match		Match
Dark Straw	221		Match	Match	Match	Match	Match		Match
Deep Amber	223	Lee 104		Match	Match	Almost	Match		Match
Light Yellow	225	Lee 101	Almost		Match	Match	Match	Match	Match
Straw	237	Lux 12	Almost		Match	Match	Match		Match
Light Straw	239		Match	Almost	Match	Match	Match		Match
No Color Green	245	Lee 213 Lee 202	Almost	Almost	Almost	Match	Match	370	Match
Pale Yellow-Green	251		Match				Match		Match
Fern Green	254	Lee 122	Almost	Match			Match		Match
Yellow-Green	256		Match	Match			Match		Match
Lime Green	257	Lee 139	Match	Almost	Almost	Match	Match	Match	Match
Primary Green	259		Match		Match	Match	Match		Match
Light Green	261		Match		Match	Match	Match		Match
Moss Green	263		Match		Match	Match	Match		Match
Lt. Blue Green	267		Match	Almost	Almost	Almost	Match		Match
Kelly Green	268	Lux 94	Almost	Match			Match		Match
Dark Green	270	Lee 124	Match	Almost			Match		Match
Fluorescent Green	273		Match		Almost	Match	Match		Match
Dark Fluorescent Green	275		Almost		Match	Match	Match		Match
Blue-Grass Green	281	GAM 690 GAM 440	Almost		Match	Match	Match	680	Match
Medium Blue-Green	284	Lee 116	Almost	Almost	Match	Match	Match		Match
Dark Peacock Green	286		Almost		Match	Match	Match		Match
Peacock Green	287	Lee 115	Almost	Match			Match		Match
Dark Turquoise	289		Match	Match			Match		Match
Light Aqua	291		Match	Almost	Match	Match	Almost		Match
Aqua	295		Match		Match	Match			Match
Rosco Peacock Blue	298	Lux 73		Almost			Match		Match

Table 6-1: VARI*LITE Color System for VARI*LITE Luminaires (Continued)

Color Name	VL No.	Similar To	VL2C	VL4	VL5	VL5A	VL5B	VL6/ VL6B	VL7/ VL7B
Lee Steel Blue	299	Lee 117		Almost			Match		Match
1/4 CTB	301	Lee 203		Match		Match	Match		Almost
1/2 CTB	303	Lee 202 Lux 61		Match		Match	Match		Almost
Full CTB	307	Lee 201	Match	Almost		Almost	Almost	810	Match
City Blue	310	GAM 847 Polycolor 70	Almost	Match			Match	830	Match
N.C. Blue	313	GAM 840 GAM 980		Match			Almost	840	Match
Slate Blue	318	Lee 161					Almost		Match
Pale Blue	321	Lux 69	Match	Almost				Match	Match
Lee Light Blue	325	Lee 118	Almost	Match					Match
Bright Blue	330	Lee 141	Almost	Match	Almost	Match	Match		Almost
Medium Blue	342	Lee 132	Match	Almost	Match	Almost	Match		Match
Sea Blue	345	Lux 68 GAM 810	Match	Match	Almost	Almost	Almost	805	Match
Icy Blue	350		Match	Match	Match	Match	Match		Match
Just Blue	355	Lee 79	Almost		Almost	Almost	Match		
Primary Blue	359	Lux 83 GAM 850	Match		Almost	Match	Almost	865	Match
Dark Steel Blue	365		Match		Almost				Match
Deep Blue	371		Match	Almost	Almost	Match			Match
Dark Blue	374	Lee 120	Match	Match	Almost	Match		Match	Match
Royal Blue	380	GAM 905	Almost	Match	Match	Match		880	Match
Dark UV	401		Match		Almost	Almost			Match
Indigo	403	Lux 59	Match	Match	Match	Almost			Match
Congo Blue	406	Lee 181	Match	Match	Match	Match		Match	Match
Darkest Lavender	409		Match	Match	Match	Match			Match
Dark Rose Purple	411		Match	Match	Match	Match			Match
Deep Lavender	415		Match	Match	Almost	Match			Match
Lilac	418		Match	Almost	Match	Match			Almost
Special Dark Lavender	421		Match	Match	Match	Match			Match
Cool Lavender	422	GAM 845	Match	Almost	Match	Almost		845	Match
Pale Lavender	425		Match				Match		Match
Mercury Vapor	429		Match	Match		Match			Match
Medium Violet	433	Lux 359	Match	Almost	Match		Almost	970	Match
Dark Lavender	443	Lee 180	Match	Almost	Match	Almost	Match	980	Match
Lee Special Lavender	447	Lee 137		Match	Almost	Match	Match		Match
Twilight	451	GAM 915		Match			Almost	930	Match
Deep Lavender	455	GAM 948	Match	Match	Match	Match	Match	Match	Match
Pale Lilac	461		Match	Almost	Match	Match	Match		Match

Table 6-1: VARI✳LITE Color System for VARI✳LITE Luminaires (Continued)

Color Name	VL No.	Similar To	VL2C	VL4	VL5	VL5A	VL5B	VL6/ VL6B	VL7/ VL7B
Periwinkle	463	GAM 960 GAM 970	Match	Match	Match	Match	Match	Match	Match
Dusty Lavender	466		Match	Match	Almost	Match	Almost		Match
No Color Lilac	468	Lux 52	Match	Match		Match	Match		Match
Special Lavender	469	Lux 54		Match		Match	Match		Match
Dark Rose	471		Match	Match	Almost	Match			Match
Dark Fushia	474	Lux 358	Almost	Match	Match	Almost		985	Match
Dark Follies Pink	476		Almost	Match	Match	Almost			Match
Magenta	478	Lee 126	Almost	Match	Match			Match	Match
Hot Pink	480		Almost	Match	Match				Match
Mauve	483		Almost	Match	Match				Match
Follies Pink	489		Almost	Match	Match				Almost
Flesh Pink	491			Match	Match	Match	Match		Match
Rose Purple	492	Lux 48		Match		Match	Match	080	Match
Carnation	494			Match		Almost	Almost		Match
No Color Pink	495			Match	Match	Almost	Match		Match
Cool Bastard Amber	496	Lux 52 Lux 33	Almost	Match	Almost	Almost	Match	Match	
Dusty Rose	497		Almost	Match		Almost	Match		Match
Rouge	498		Almost	Match	Match	Match	Match		Match

VL Color System for DMX-Controllable Fixtures

Table 6-2: VARI*LITE Color System for DMX Fixtures

Color Name	VL No.	Similar To	CYB	SSZ	PAL
Pink Tint	101	Lux 55	Match	Match	Match
Bastard Amber	103	Lux 02	Match	Match	Match
GAM Bastard Amber	104	GAM 325			Match
Warm Bastard Amber	105	Lee 162	Match	Match	Match
Pale Golden Amber	107	Lux 09	Match	Match	Match
Light Amber	110	Lux 16 Lee 204	Match	Match	Almost
Light Flame	112	Lux 17	Match	Match	Match
Medium Bastard Amber	115	Lux 04	Match	Match	Match
Dark Bastard Amber	116	Lux 03	Match	Match	Match
Warm Amber	122	Lee 176 Lux 01	Match	Match	Match
Peach	125	GAM 320	Match	Match	Match
Flesh Pink	131	Lux 34	Almost	Almost	Match
Dark Pink	134	Lee 111	Match	Match	Match
Medium Salmon	136	Lux 32	Match	Match	Match
Salmon	138	Lux 41	Match	Match	Match
Brite Pink	141	Lee 128	Match	Match	Match
Dark Peach	145		Match	Match	Match
Lee Magenta	149	Lee 113	Match		Match
Dark Salmon	151		Match		Match
Deep Salmon	155				Almost
Dark Red	161				
Medium Red	164	Lux 27			
Primary Red	168	Lee 106			
Dark Orange	173	Lux 26			
Light Red	177	GAM 235	Almost		
Dark Orange	181				Match
Orange	183	Lux 19 Lee 164	Match		Match
Medium Amber	187	Lux 22	Match	Almost	Match
Deep Golden Amber	201	GAM 345	Almost	Match	Match
Canary	205	Lux 21	Match	Match	Match
Light Amber	208		Match	Match	Match
Lee Orange	212	Lee 105	Match	Almost	Match

Table 6-2: VARI✳LITE Color System for DMX Fixtures (Continued)

Color Name	VL No.	Similar To	CYB	SSZ	PAL
Chrome Orange	214	Lux 15 Lee 179	Almost	Match	Match
Bright Yellow	219		Match	Match	Match
Dark Straw	221			Almost	Match
Deep Amber	223	Lee 104	Almost	Almost	Match
Light Yellow	225	Lee 101	Match	Match	Match
Straw	237	Lux 12	Match	Almost	Match
Light Straw	239			Almost	Match
No Color Green	245	Lee 213 Lee 202		Almost	Match
Pale Yellow-Green	251			Match	Match
Fern Green	254	Lee 122	Match	Match	Match
Yellow-Green	256			Match	Match
Lime Green	257	Lee 139	Match		
Primary Green	259		Match		Match
Light Green	261		Match		Almost
Moss Green	263		Match		Almost
Lt. Blue Green	267		Match	Almost	Match
Kelly Green	268	Lux 94	Match	Almost	Match
Dark Green	270	Lee 124	Match	Match	Match
Fluorescent Green	273		Match	Almost	
Dark Fluor. Green	275		Match	Almost	
Blue-Grass Green	281	GAM 690 GAM 440	Match		
Medium Blue-Green	284	Lee 116	Match	Match	
Dark Peacock Green	286		Match	Match	
Peacock Green	287	Lee 115	Match		Match
Dark Turquoise	289		Match	Almost	Match
Light Aqua	291		Match	Almost	Match
Aqua	295				
Rosco Peacock Blue	298	Lux 73	Almost		Match
Lee Steel Blue	299	Lee 117	Match		Match
1/4 CTB	301	Lee 203		Match	Match
1/2 CTB	303	Lee 202 Lux 61		Match	Match
Full CTB	307	Lee 201	Almost	Almost	Match
City Blue	310	GAM 847 Polycolor 70	Almost	Almost	
N.C. Blue	313	GAM 840 GAM 980	Almost	Match	
Slate Blue	318	Lee 161	Almost	Match	Match
Pale Blue	321	Lux 69	Match		Match

Table 6-2: VARI*LITE Color System for DMX Fixtures (Continued)

Color Name	VL No.	Similar To	CYB	SSZ	PAL
Lee Light Blue	325	Lee 118	Match	Match	Match
Bright Blue	330	Lee 141	Match		Match
Medium Blue	342	Lee 132	Match	Almost	Match
Sea Blue	345	Lux 68 GAM 810	Match	Almost	Almost
Icy Blue	350		Match	Match	Match
Just Blue	355	Lee 79	Match	Match	
Primary Blue	359	Lux 83 GAM 850	Match	Match	Almost
Dark Steel Blue	365				
Deep Blue	371				
Dark Blue	374	Lee 120			
Royal Blue	380	GAM 905			
Dark UV	401				
Indigo	403	Lux 59			Match
Congo Blue	406	Lee 181			
Darkest Lavender	409				Match
Dark Rose Purple	411		Match	Match	Match
Deep Lavender	415		Almost	Match	Match
Cool Lavender	422	GAM 845	Almost	Match	Match
Lilac	418		Almost	Match	Match
Special Dark Lavender	421		Match	Match	Match
Pale Lavender	425		Almost	Match	Match
Mercury Vapor	429		Almost	Almost	Match
Medium Violet	433	Lux 359	Match	Match	Match
Dark Lavender	443	Lee 180	Match	Match	Almost
Lee Special Lavender	447	Lee 137	Match	Match	Almost
Twilight	451	GAM 915	Almost	Match	Match
Deep Lavender	455	GAM 948	Match	Match	Match
Pale Lilac	461		Almost	Match	Match
Periwinkle	463	GAM 960 GAM 970	Match	Match	Match
Dusty Lavender	466		Almost	Match	Match
No Color Lilac	468	Lux 52	Match	Match	
Special Lavender	469	Lux 54	Almost	Match	
Dark Rose	471			Almost	Match
Dark Fushia	474	Lux 358	Match	Match	Match
Dark Follies Pink	476		Match	Match	Match
Magenta	478	Lee 126	Match	Match	Almost
Hot Pink	480		Match		Match
Mauve	483		Match		Match

Table 6-2: VARI*LITE Color System for DMX Fixtures (Continued)

Color Name	VL No.	Similar To	CYB	SSZ	PAL
Follies Pink	489		Match		Match
Flesh Pink	491		Almost	Almost	Almost
Rose Purple	492	Lux 48	Match	Match	Match
Carnation	494		Almost	Almost	Match
No Color Pink	495		Almost	Almost	Match
Cool Bastard Amber	496	Lux 52 Lux 33	Almost	Almost	Match
Dusty Rose	497		Almost	Almost	Match
Rouge	498			Almost	Match

CHAPTER 7.

Basic Cues

This chapter provides an overview of cue concepts and instructions for storing a basic cue and playing it back. Once you are familiar with these basic operations, the "Advanced Cue Features" chapter on page 205 will allow you to fully utilize all of the Virtuoso console's cue capabilities.

- **Cue Concepts**
- **Creating Cues**
- **Playback**

Cue Concepts

What Is a Cue?

A cue stores a predefined combination of luminaire parameters such as focus, color, beam, timing, etc. which will be recalled when the cue is played back in a submaster. By playing back a series of cues, a show can be created.

Cues are stored with numbers which enable random access for modification or playback at any time. The Virtuoso console can store up to 10,000 cues, numbered from .01 to 9999.99. Cues can also be given alpha-numeric labels for identification.

The cue store process is basically a "what you see is what you get" operation based on the intensity state of the luminaire. In other words, the parameter values corresponding to the "stage look" are the values stored in the cue when a store operation takes place. Which parameters are stored is determined by the current intensity state of each luminaire and the filter settings.

Creating Cues

Intensity States

One of the most important factors to consider during both cue storing and playback is the intensity state and intensity level of selected channels at the time of the store operation. During store operations, the intensity state will determine which parameters will store data, and for the intensity parameter itself, what value will be stored. During playback, the intensity level will affect the overall intensity output. Intensity states/levels can be controlled using several methods, which include the Intensity encoder, associated intensity state buttons, command-line entry, submasters fader positions, Grand Master fader position, and the Black Out feature.

Because of the complexity of this subject, intensity state/level discussions are provided in stages throughout this manual as follows:

Subject	Explanation
Intensity states for storing cues.	"Intensity States" on page 117.
How faders affect cue storing.	"How Faders Affect Intensity" on page 211.
How faders affect playback.	"Playback Intensity Level" on page 252.

The Four Intensity States

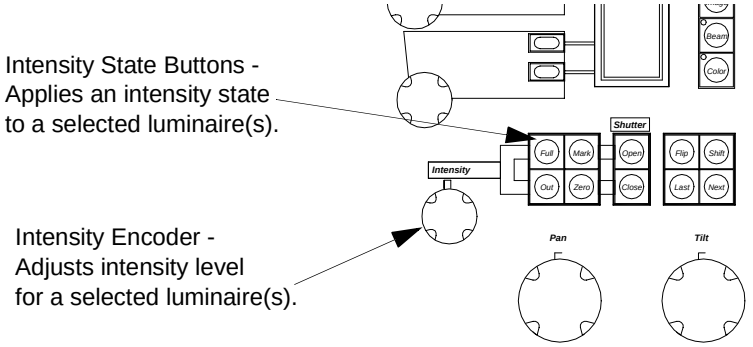
There are four intensity states that determine which parameters are stored, and in some cases, at what level. These are set by the intensity encoder and/or the intensity state buttons.

- **Active** - intensity value greater than zero (1-100%). When a luminaire is *active*, it will store data for all parameters (including intensity).
- **Marked** - intensity state of "marked" (0% level). When a luminaire is *marked*, it will store data for all parameters with intensity stored as "marked" (0% level). When a cue is recalled, a *marked* luminaire will move to the stored position and, if previously *active*, fade out with the luminaire's intensity down time.
- **Zero** - intensity state of zero ("hard zero", 0% level). A luminaire that is *zero* will only store intensity data, which is stored as a "hard zero" (0% level) along with the luminaire's intensity down time. When a cue is recalled, a *zero* luminaire will fade out with the luminaire's intensity down time. It will not change any other parameter positions because there is no data stored for them.
- **Out** (*inactive*) - no parameter data (0% level). When a luminaire is *out*, it will not store any parameter data. When a cue is recalled, an *out* (or *inactive)* luminaire will not change parameter positions, but if previously *active*, it will fade out in the cue's out time.

Setting Intensity States

Note: Although VLM moving mirrors do not have lamps, they must still have an intensity value (*active*, *marked*, or *zero*) in order to store information in a cue.

The intensity state can be set by the Intensity encoder or the Intensity State buttons.



Virtuoso DX Console
(Virtuoso Console not shown)

The keypad [At] and [Full] commands can also be used to set intensity using a percentage value of 0-100.

The [At] button is used to enter intensity values:

- <Chan> [n] [At] [m] [Enter] - changes the intensity level of the selected channel to m.
- <Chan> [n] [Thru] [q] [At] [m] [Enter] - changes the intensity level for the selected range of channels to m.

The [Full] button is used to quickly set intensity to 100%.

- <Chan> [n] [Full] [Enter] - changes the intensity level of the selected channel to 100%.

Fader Levels

Since the intensity level plays a large part in storing cues, it is important to note that intensity levels stored in a cue are calculated after the contribution of any selected submasters faders, not before. To simplify the storing of basic cues, ensure that all faders are set at full (100%) and the [Black Out] button is not engaged.

Storing

Note: When [Store] is pressed, the keypad defaults to Cue mode. Therefore, the <Cue> button press is noted as optional.

Store a basic cue:

Step 1. Using manual controls, set luminaires in desired "stage look."

Step 2. Ensure that luminaires are in required intensity state (refer to "Intensity States" on page 117).

Step 3. Press [Store] <Cue> [n] [Enter] - current stage look will be stored as specified cue number (n).

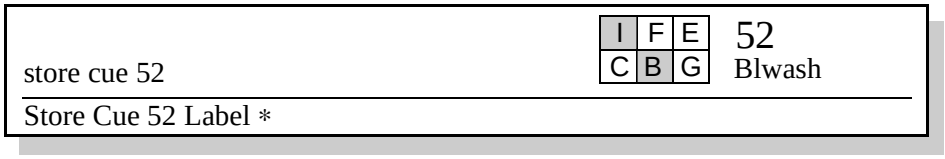
Store a basic cue with a label:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Using manual controls, set luminaires in desired "stage look."

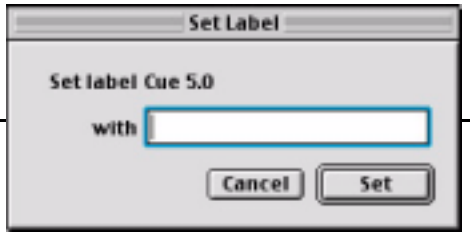
Step 2. Ensure that luminaires are in required intensity state (refer to "Intensity States" on page 117).

Step 3. Press [Store] <Cue> [n] [Label] [Enter] [xxxxxx] [return].



Change a cue's label:

- <Cue> [n] [Label] [Enter] [xxxxxx] [return].



Modifying

Unlike storing Presets, Beams, and Colors, storing cue data into a cue number that already exists is a replacement action, not an additive action. Therefore, any cue store operation will store the current "stage look" (as defined by the intensity state). To modify a cue, recall the cue, change the parameters as required and then re-store it.

Deleting

The delete function can be used to erase a stored cue. Since this function does not route through the channel selects, current channel selections are not affected.

When deleted, the cue will also be removed from the cue list.

Note: When [Delete] is pressed, the keypad defaults to Cue mode. Therefore, the <Cue> button press is noted as optional.

Delete a cue:

- [Delete] <Cue> [n] [Enter] - deletes the entire specified cue (n).

Delete a channel from a cue:

Step 1. Recall cue.

Step 2. Select required channel.

Step 3. Press [Out].

Step 4. Re-store cue by pressing [Store] <Cue> [n] [Enter] (where n is the discrete cue number).

Undo

The last store, update, or delete action taken on the console can be reversed with the undo command.

Undo the last store/update/delete command:

- [Undo] [Enter].

Playback

Basic Playback

After storing a cue, it can be played back using a submaster.

Play a cue:

Step 1. At keypad, press [Cue] [n] [Enter] or scroll through cue list to recall a cue. Its number and label will be displayed in the command-line display.

		I	F	C
		B	G	D

52
Blwash

set cue 52

Cue 52 *

Step 2. At desired submaster, press [Select] to select submaster for playback function.

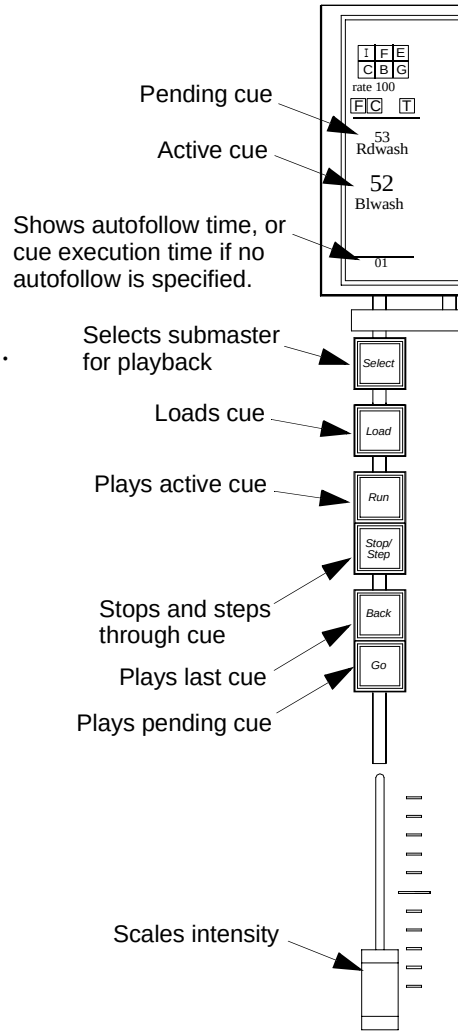
Step 3. Press [Load] to place cue in submaster's pending file.

Step 4. Ensure Grand Master fader is set at full.

Step 5. Ensure submaster fader is set at full.

Step 6. Press [Go] to play cue.

Step 7. Press [Run] to replay cue once it is active.



Play next cue:

The submaster always sequences, placing the next available cue in the pending file.

- Press [Go] to play back pending cue.

Play previous cue:

The submaster can play back previously played cues in decrementing order.

- Press [Back] to play previous cue.

Shortcut If submaster is empty: at keypad press [cue number], then at submaster press [Go]. (Must be valid cue number.)

Notes

CHAPTER 8.

Basic Effects

This chapter provides an overview of effects concepts and instructions for storing an effect and playing it back. Once you are familiar with these basic operations, the "Advanced Effects Features" chapter on page 229 will allow you to utilize all of the Virtuoso console's effects capabilities.

- **Effects Concepts**
- **Creating Effects**
- **Playback**

Effects Concepts

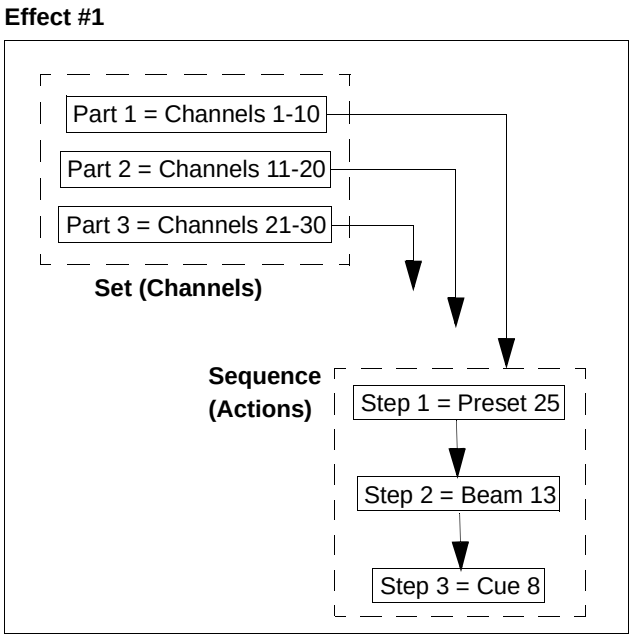
What is an Effect?

An effect is a looping, wave, or ripple type operation which can be applied to multiple channels. Once created, an effect can be stored as a cue or played back directly on any submaster.

Effects are comprised of two components. The first component is a **Set**. A set is comprised of **parts**, which define which channels (luminaires) are to be included in the effect playback, and in which order they will be addressed. Discrete channel numbers or channel ranges may be used to compose set parts with the limitation that a channel may only appear once within the set.

The second component is a **Sequence**. A sequence includes a number of **steps**, each of which define an action that an individual set part is to take. Discrete instructions, colors, beams, presets, and cues can be used to create a step.

Example of a 3 Step, 3 Part Effect

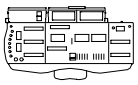

Effect #1
Part 1 = Channels 1-10
Part 2 = Channels 11-20
Part 3 = Channels 21-30
Set (Channels)
Sequence (Actions)
Step 1 = Preset 25
Step 2 = Beam 13
Step 3 = Cue 8

Note: Timing values can be defined for effects on an overall effect and/or sequence level. Timing, however, will be discussed in the "Advanced Effects Features" chapter on page 229.

Effects Control Panel and Windows

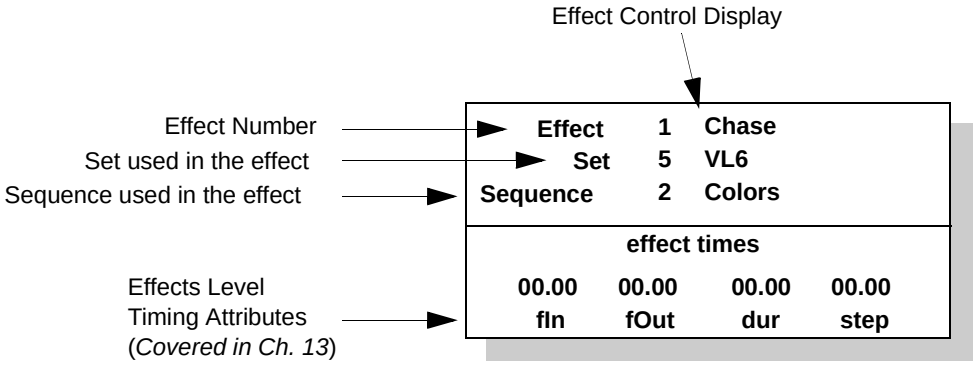
All effects and effect components (sets, sequences, parts, steps) can be created using either the Effects Control panel in combination with the select displays, the effects windows, and for some components, the command-line keypad.

Effects Control Panel (Virtuoso Console)



Components of an effect can be created using the Effects panel, command-line keypad, and/or associated effects windows.

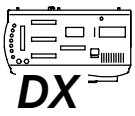
When an effect is selected, its attributes will appear in the Effect Control display and the direction, mode, and start buttons associated with that effect will light. The same information will also be available in the Effects, Sets, and Sequences windows.



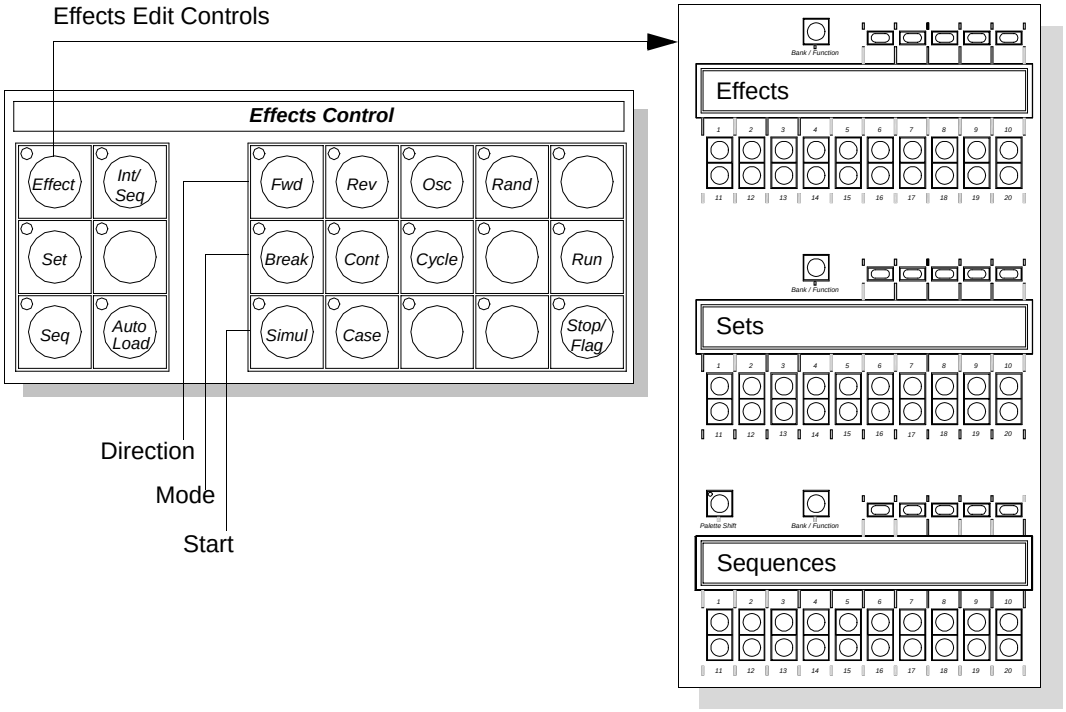
The soft select displays located on the Effects panel function just as the other soft select displays. The bottom select display provides presets, colors, beams, groups, macros, snapshots, and effects just as the manual control select displays. The top select display provides access to effects, sets, sequences, parts, and steps for the purpose of creation, modification, or playback.

Refer to "Panel Select Displays" on page 77 for instructions on using select displays.

Effects Control Panel (Virtuoso DX Console)

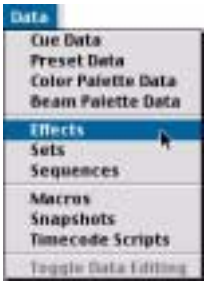


The Effects Control panel is located on the console desk and works together with the three select displays (for more information on select display operation, refer to "Panel Select Displays" on page 77). When the [Effect] button is pressed at the control panel, the three selects will display Effects, Sets, and Sequences.



Effects Windows

Three effects windows are also available. These can be used alone or in combination with the Effects Control panel to create and edit effects.



Effects windows:

- Effects
- Sets
- Sequences

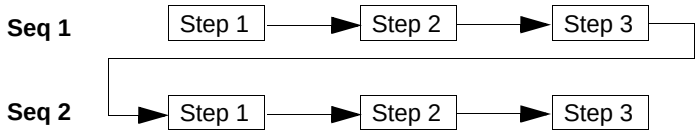
Direction, Mode, and Start

Direction, Mode, and Start attributes determine how the sequence steps are to be applied to the set parts. These are used in combination to provide different executions of set parts.

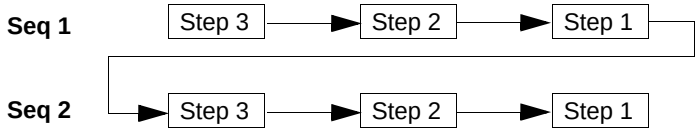
Direction

Direction determines which direction the sequence steps run.

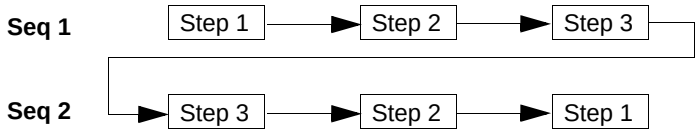
Forward [Fwd] - The sequence steps will run forward (Step 1, Step 2, Step 3, etc.) and then start over when the last step is reached.



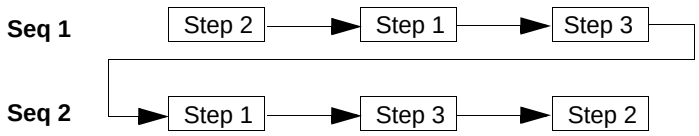
Reverse [Rev] - The sequence steps will run backward (Step 3, Step 2, Step 1) and then start over when the first step is reached.



Oscillate [Osc] - The sequence steps will run forward, then in a reverse direction, forward, then reverse, etc.



Random [Rand] - The console chooses which sequence steps to run, in what order, and the timing used.

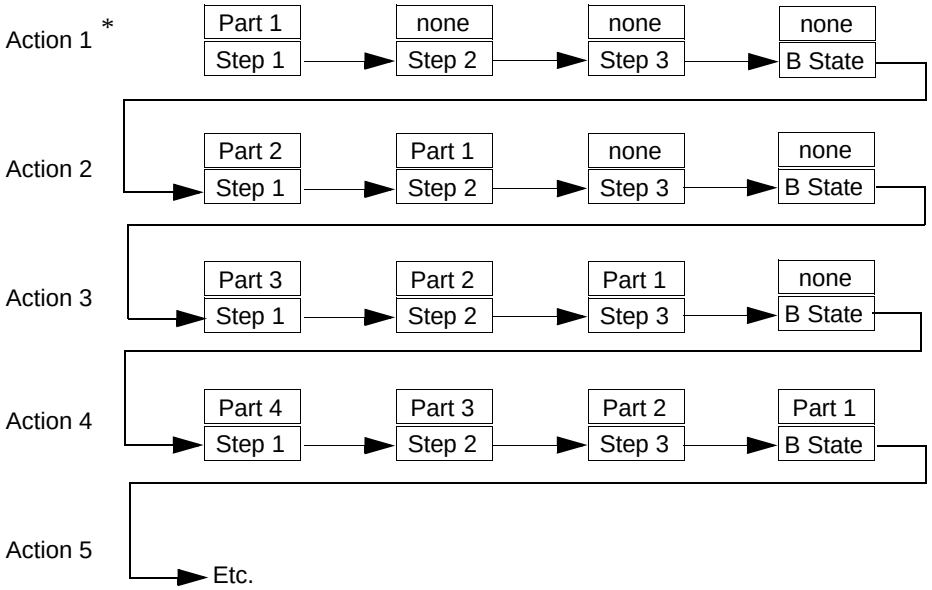


Mode

Mode determines how the sequence steps run in relationship to each other.

- **Break** - Each part makes one pass through each step on any individual cycle and then goes to its background state when not in a step.

  Breaking/Cascade Effect:



  * For example purposes, actions are not necessarily complete sequences. An action merely represents what happens at each stage of the effect whether it is a complete sequence or a portion of a sequence.

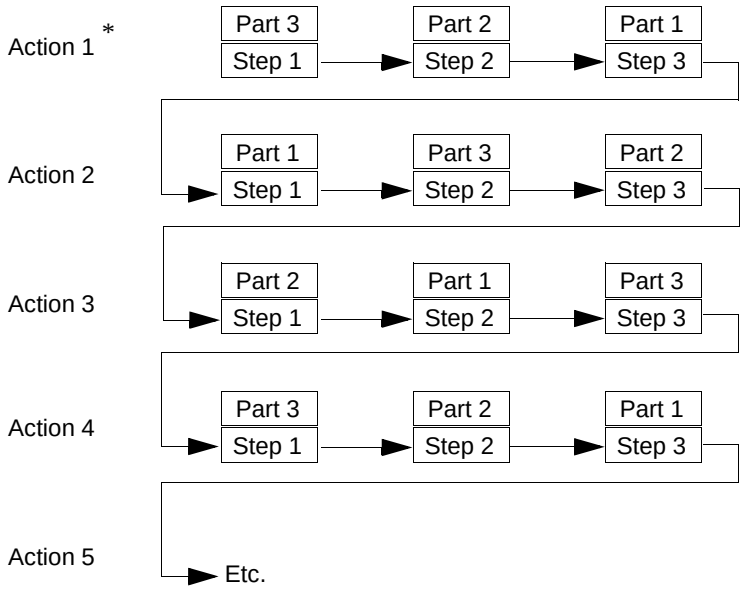
- **Continuous [Cont]** - Once started, all parts are in some step at all times during the effect. Once a part reaches the last step, it automatically goes back to the first step and repeats sequence. (Refer to example on next page.)
- **Cycle** - The effect runs all set parts through the first sequence step, then each set part through the second sequence step, etc.

Start

Start determines how the sequence steps enter the effect.

- **Simultaneous [Simul]** - All set parts assume some effect state upon effect recall (either a discrete instruction or the background state).
- **Cascade [Casc]** - The set parts will start the sequence in a staggered entry. Part 1 will complete Step 1, then go to Step 2 while Part 2 begins Step 1, etc.

Continuous/Simultaneous Effect**:**



* For example purposes, actions are not necessarily complete sequences. An action merely represents what happens at each stage of the effect whether it is a complete sequence or a portion of a sequence.

Default Settings

The default settings for these attributes can be used to create basic effects. Unless changed, these settings will be stored into the effect during an effect store operation:

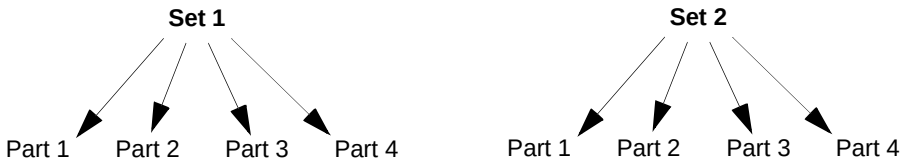
- Forward
- Continuous
- Cascade

Creating Effects

Creating Sets

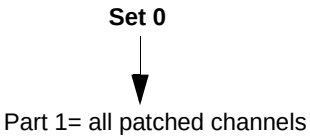
Sets can be created using the Effects Control panel or Sets window. Once you have created some sets, these can be used in combination with sequences to create effects.

A **set** consists of one or more **parts**. Parts are made up of specified channels (luminaire groups) with the limitation that a channel may only appear once within the set.



Set 0

One pre-programmed set is available, which contains all patched channels as a single part. This is the default set assumed by all effects unless changed. It can be used to quickly create an effect which would be assumed by all the luminaires in your system.



Interlace, Sequential, and Random

When loading channels across two or more parts, the channels may be loaded "interlaced", "sequentially", or "randomly." For example, when loading channels 1-6 across two parts using the interlace or sequential methods, they would produce the following results:

Channels loaded interlaced

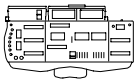
PARTS				Bank 1
p1	p 2	p 3	p 4	p 5
1 3 5	2 4 6			

Channels loaded sequentially

PARTS				Bank 1
p1	p 2	p 3	p 4	p 5
1-3	4-6			

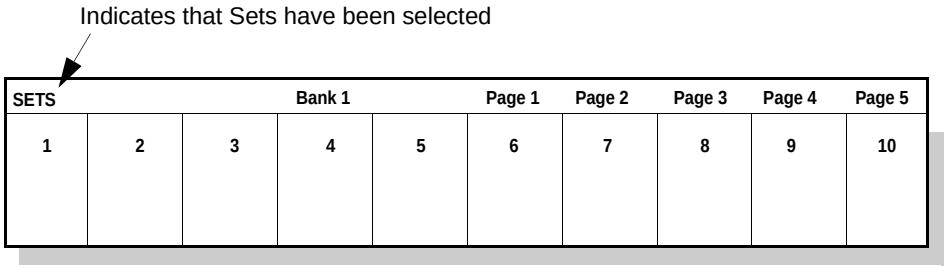
From Effects Control Panel (Virtuoso Console)

Refer to "Virtuoso Effects" on page 366 for an illustrated fold-out of the Virtuoso Effects panel.



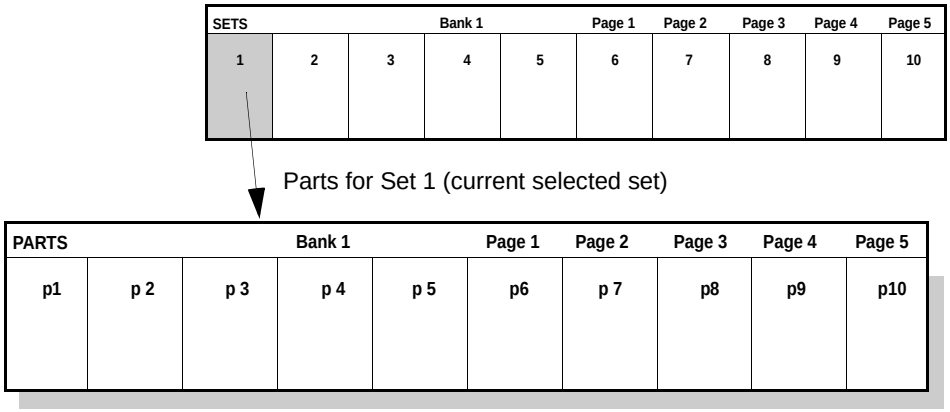
Create a set:

Step 1. Press [Set].



Step 2. Press [Set Select Button] of set number you wish to create. (Select will highlight in display.)

Step 3. Press [Edit]. (Display will switch to Parts bank for the set number selected in previous step.)



Step 4. Load channels into individual parts:

a. At Channel Select panel or keypad, select channels you wish store in part.

b. At Effects panel, press [Store] / [Part Select Button]. (Channels will appear in display.)

c. Repeat Steps a and b to store channels into parts 2, 3, 4, etc. as required. (Channels can only be used once in a set.)

Load channels across a range of parts:

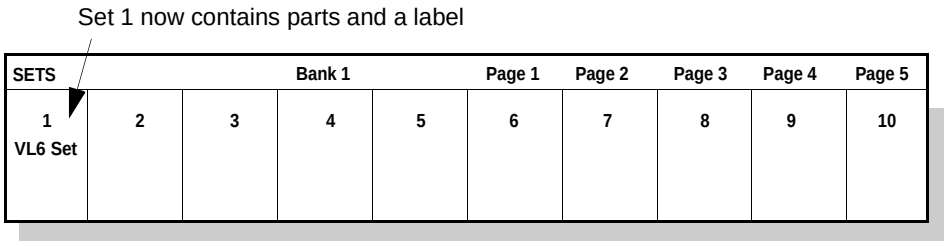
a. At Channel Select panel or keypad, select channels you wish store into set.

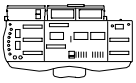
b. At Effects panel press [Int/Seq] to load sequentially or leave unselected to load interlaced (refer to "Interlace, Sequential, and Random" on page 130).

c. Press [Store] / [Part 1 Select Button], then while continuing to hold [Store], press [Part 2 Select Button] etc. to specify a range of parts which will contain the channels. Channels will load across parts according to the method chosen (Interlaced or Sequential) when [Store] is released.

Step 5. Press [Edit] again to return to Sets bank.

Step 6. Label your set by pressing [Label] / [Set Select Button] [xxxxxx] [return].





Delete a part:

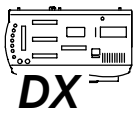
Step 1. Deselect all channels.

Step 2. Press [Store] / [Part Select Button] (of part you wish to delete). Part will be deleted.

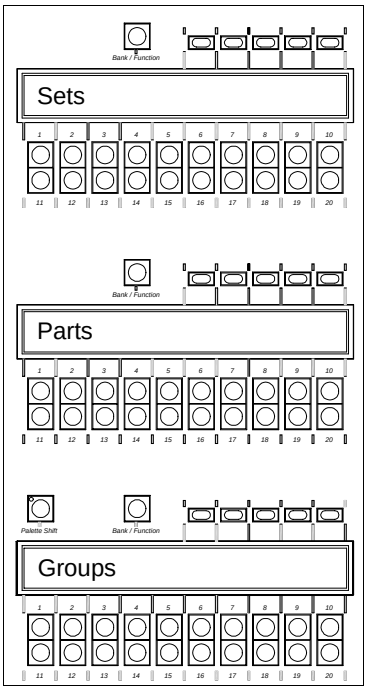
- or -

Press [Delete] / [Part Select Button] (of part you wish to delete). Part will be deleted.

From Effects Control Panel (Virtuoso DX Console)



Create a set:



Step 1. At Effects Control, press [Set]. Selects will display Sets, Parts, and Groups.

Step 2. At Sets select display, select a set to create.

Step 3. Select a group or select desired channels to be stored as a *part* or *parts*.

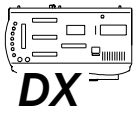
Step 4. At Effects Control panel press [Int/Seq] to load sequentially or leave unselected to load interlaced (refer to "Interlace, Sequential, and Random" on page 130).

Step 5. Press [Store] / [Part 1 Select Button], then while continuing to hold [Store], press [Part 2 Select Button] etc. to specify a range of parts which will contain the channels. Channels will load across parts according to the method chosen (Interlaced or Sequential) when [Store] is released.

Step 6. Label your set by pressing [Label] / [Set Select Button] [xxxxxx] [return].

Set 1 now contains parts and a label

SETS			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
1 VL6 Set	2	3	4	5	6	7	8	9	10



Delete a part:

Step 1. Deselect all channels.

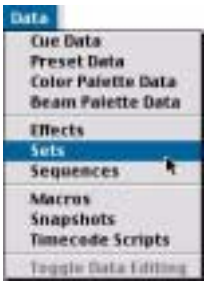
Step 2. Press [Store] / [Part Select Button] (of part you wish to delete). Part will be deleted.

- or -

Press [Delete] / [Part Select Button] (of part you wish to delete). Part will be deleted.

From Sets Window

Create a set:



Step 1. At Data menu, select Sets. Sets window will open.

Step 2. Using cursor, select a Set. (Window will also respond to Set selections made at Effects panel.)

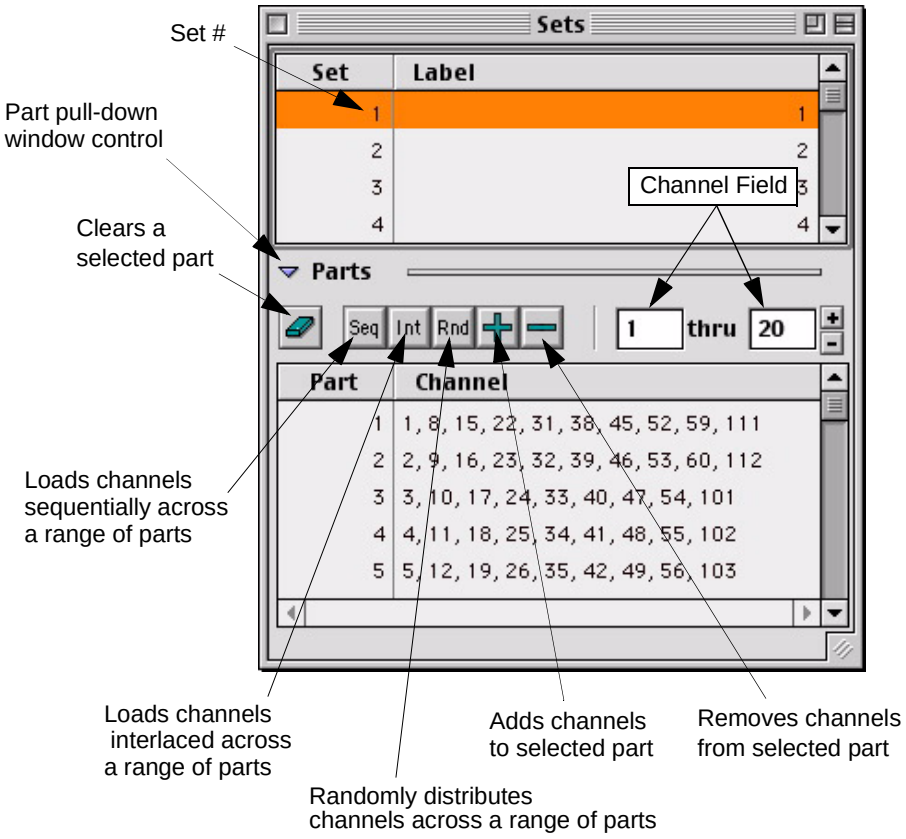
Step 3. Load channels into individual parts:

a. Using cursor, select a part.

b. At channel fields, type in a range of channels.

c. Click + to assign channels to selected part. (Click - to remove channels from selected part.)

d. Repeat Steps a through c as required to store additional parts into set. (Channels can only be used once in a set.)


Set #
Part pull-down window control
Clears a selected part
Loads channels sequentially across a range of parts
Loads channels interlaced across a range of parts
Randomly distributes channels across a range of parts
Adds channels to selected part
Removes channels from selected part
Channel Field
Sets
Set
Label
Parts
Seq
Int
Rnd
1
thru
20
Part
Channel
1, 8, 15, 22, 31, 38, 45, 52, 59, 111
2, 9, 16, 23, 32, 39, 46, 53, 60, 112
3, 10, 17, 24, 33, 40, 47, 54, 101
4, 11, 18, 25, 34, 41, 48, 55, 102
5, 12, 19, 26, 35, 42, 49, 56, 103

Load channels into a range of parts:

a. Using cursor and keyboard SHIFT, select multiple parts.

b. At channel fields, type in a range of channels.

c. Click Seq to load sequentially, click Int to load interlaced, or click Rnd to load randomly. (refer to "Interlace, Sequential, and Random" on page 130).

Step 4. Using keyboard, label set as required.

Delete a part:

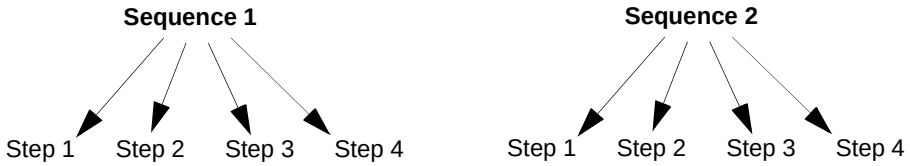
Step 1. Select Part you wish to delete.

Step 2. Click Clear button.

Creating Sequences

Sequences can be created using the Effects Control panel or Sequences window. Once you have some sequences, these can be used in combination with sets to create effects.

A **sequence** consists of one or more **steps**.



Etc.

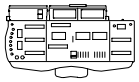
Steps may contain either a single cue or up to three parameters in any combination of the following:

- Preset
- Color Palette
- Beam Palette
- Intensity
- Pan
- Tilt
- Blue
- Amber
- Magenta
- Color Wheel
- Beam
- Edge
- Frost
- Zoom
- Strobe
- Gobo Wheel
- Gobo Index
- Rotating Gobo
- Effects Wheel
- Effects Index
- Prism
- Stop Flag

Note: If overlapping parameters are specified, only the last action will be used.

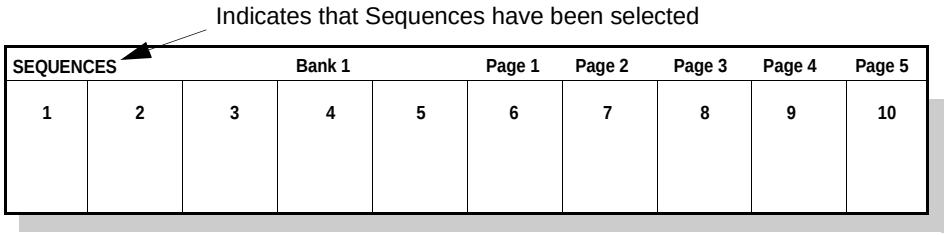
From Effects Control Panel (Virtuoso Console)

Refer to "Virtuoso Effects" on page 366 for an illustrated fold-out of the Virtuoso Effects panel.



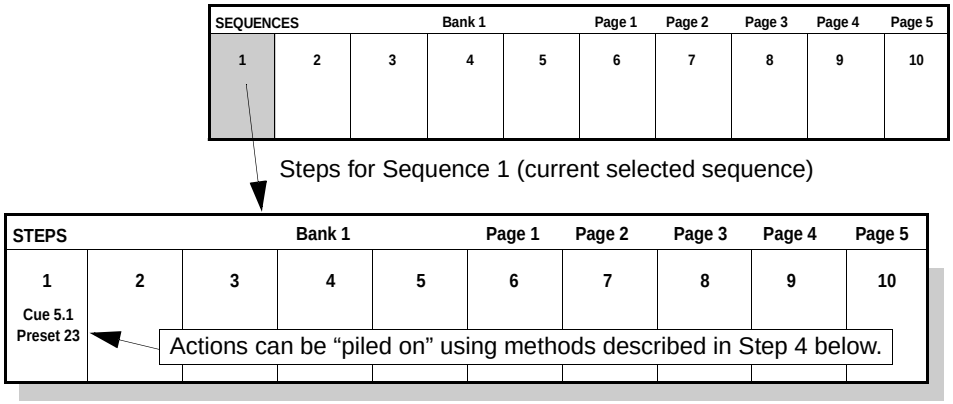
Create a sequence:

Step 1. Press [Seq].



Step 2. Press [Sequence Select Button] of sequence number you wish to create. (Select will highlight in display.)

Step 3. Press [Edit]. (Display will switch to Steps bank for the sequence number selected in previous step.)



Step 4. Do one of the following or a combination:

a. At keypad, press [Step] [1] [Cue*] [n] [Enter].
* Preset, Color, Beam, etc. can be used instead of Cue.

b. At keypad, press [Step] [1] [Cue] [n] [Thru] [x] [Enter].

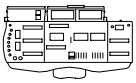
c. At Effects panel, press [Step 1 Select Button]. Press [Store] along with [Preset* Select Button] or [Stop Flag].
* Color, Beam, etc. can be used instead of Preset.

Step 5. Repeat Step 4 to store steps 2, 3, 4 ...

Step 6. Press [Edit] again to return to Sequences bank.

Step 7. Label by pressing [Label] / [Sequence Select Button] [xxxxxx] [return].

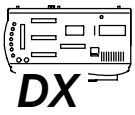
SEQUENCES			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
1 Colors	2	3	4	5	6	7	8	9	10



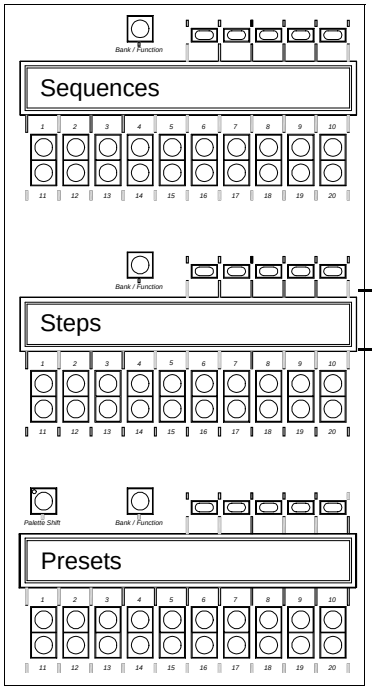
Delete a step:

- Press [Delete] / [Step Select Button] (of step you wish to delete). Step will be deleted.

From Effects Control Panel (Virtuoso DX Console)



Create a sequence:



Step 1. At Effects Control, press [Seq]. Selects will display Sequences, Steps, and Presets.

Step 2. At Sequences select display, select a sequence to create.

Step 3. Add a preset to a step:

Note: In Step a., only select buttons 11-20 can be used.

a. At Steps display, press and hold any [Step Select Button] from 11-20.

b. At Presets select, press [Preset Select Button] of preset you wish to add and release [Step Select Button].

Step 4. Add color or beam to a step:

a. Change Presets select to Colors or Beams.

Note: In Step b., only select buttons 11-20 can be used.

b. At Steps display, press and hold any [Step Select Button] from 11-20.

c. At select, press [Select Button] of color or beam you wish to add and release [Step Select Button].

Step 5. To add intensity:

a. At Steps display, press a [Step Select Button] (11-20).

b. At keypad, press [Step] [At] [50]* (or [Step] [#] [At] [50]*).
* Any intensity value 1-100 can be substituted for 50.

Step 6. To add a cue:

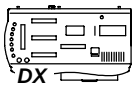
a. At keypad, press [Step] [1] [Cue*] [n] [Enter].
* Preset, Color, Beam, etc. can be used instead of Cue.

b. At keypad, press [Step] [1] [Cue] [n] [Thru] [x] [Enter].

Step 7. Repeat Step 5 to store steps 2, 3, 4 ...

Step 8. Label by pressing [Label] / [Sequence Select Button] [xxxxxx] [return].

SEQUENCES			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
1 Colors	2	3	4	5	6	7	8	9	10

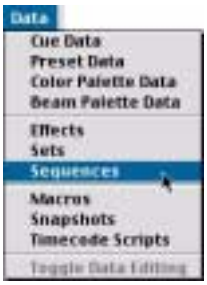


Delete a step:

- Press [Delete] / [Step Select Button] (of step you wish to delete). Step will be deleted.

From Sequences Window

Create a sequence:



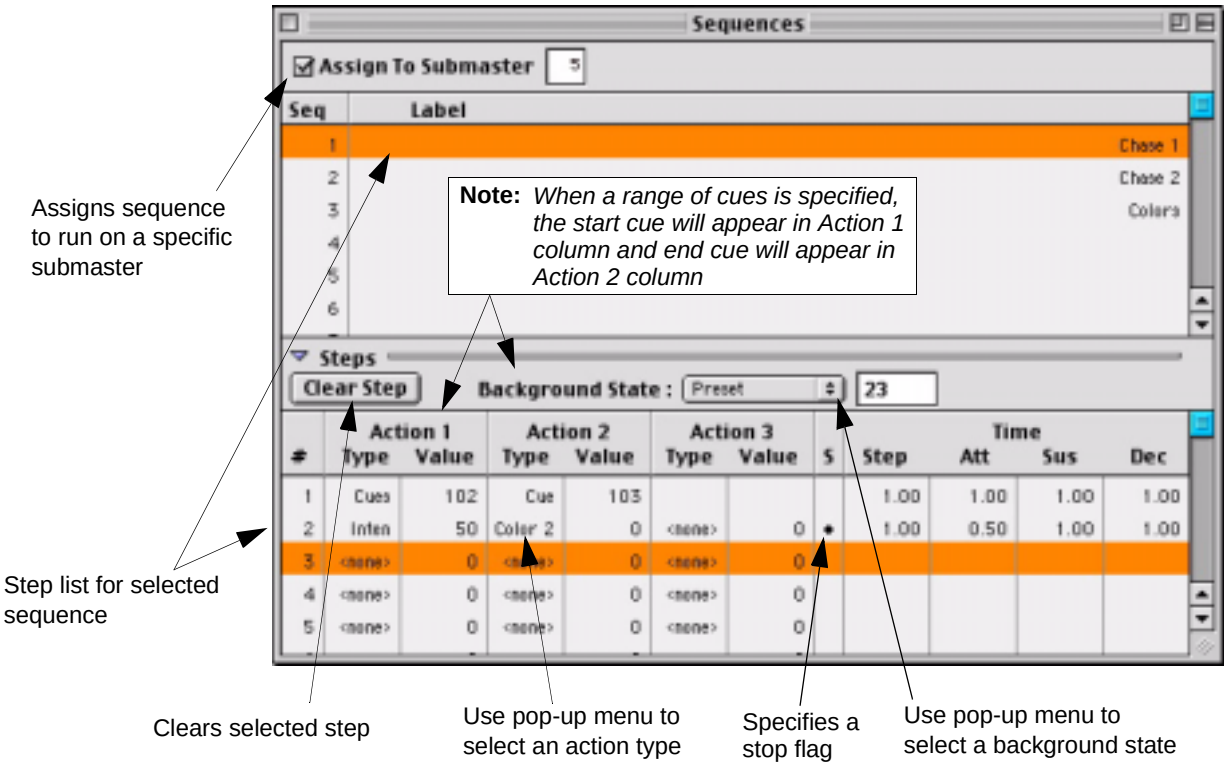
Step 1. At Data menu, select Sequences. Sequences window will open.

Step 2. Using cursor, select a Sequence. (Window will also respond to Sequence selections made at Effects panel.)

Step 3. At Step portion of window, use pop-up menu and text fields to enter actions. Cue ranges may also be specified. (Each step may contain up to three actions.)

Step 4. Repeat as necessary to store additional steps into sequences.

Step 5. Using keyboard, label sequences as required.



Delete a step:

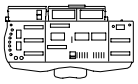
Step 1. Select Step you wish to delete.

Step 2. Click Clear Step button.

Background State

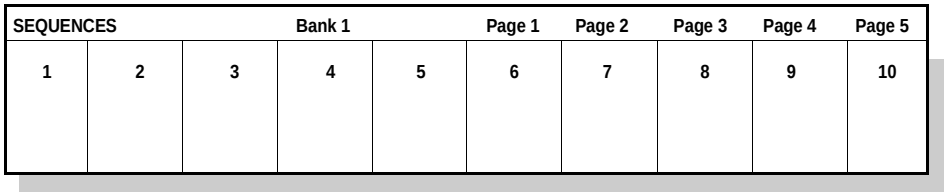
Each sequence can contain one background state. The background state tells the luminaires where to go when not executing a step. The background state is an optional entry. If a background state is not provided, and the behavior of the effect determines that it does not have an action at certain points during the effect, the luminaires will return to their state prior to being pulled into the effect. If a background state has been defined, however, parts will run through each active step as determined by the distribution patterns for the effect and assume their background state until a subsequent instruction is provided.

From Effects Select Display (Virtuoso Console)



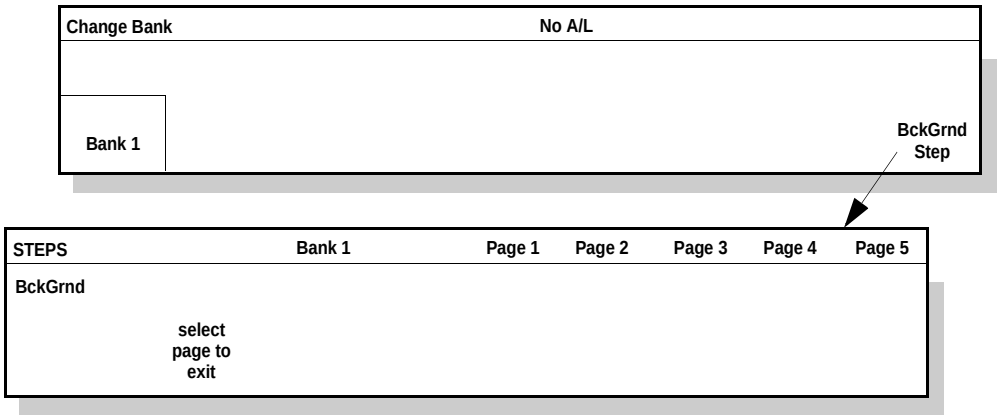
Define a background state:

Step 1. Press [Seq].



Step 2. Press [Edit]. (Display will switch to Steps bank for the sequence number selected in previous step.)

Step 3. Press [Bank / Function] / [Bckgrnd Step]. Window will change to Background screen.

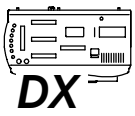


Step 4. Do one of the following:

a. At Effects panel, press [Store] along with [Preset* Select Button]. (* Color, Beam, etc. can be used instead of Preset.)

b. At keypad, press [Step] [Cue] [n] [Enter] - where n is a discrete cue number.

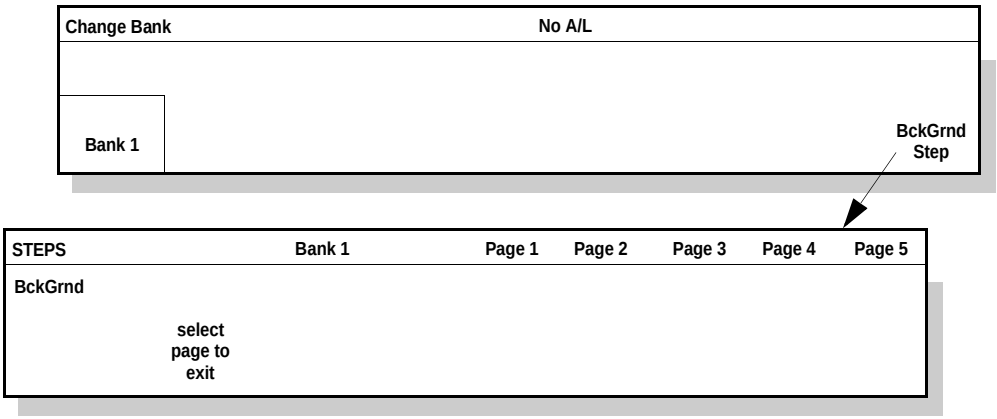
From Effects Select Displays (Virtuoso DX Console)



Define a background state:

Step 1. At Effects Control, press [Seq]. Selects will display Sequences, Steps, and Presets.

Step 2. At Steps select display, press [Bank / Function] / [Bckgrnd Step]. Window will change to Background screen.



Step 3. Define background state as follows:

a. Press and hold Step select button 11 (below background state).

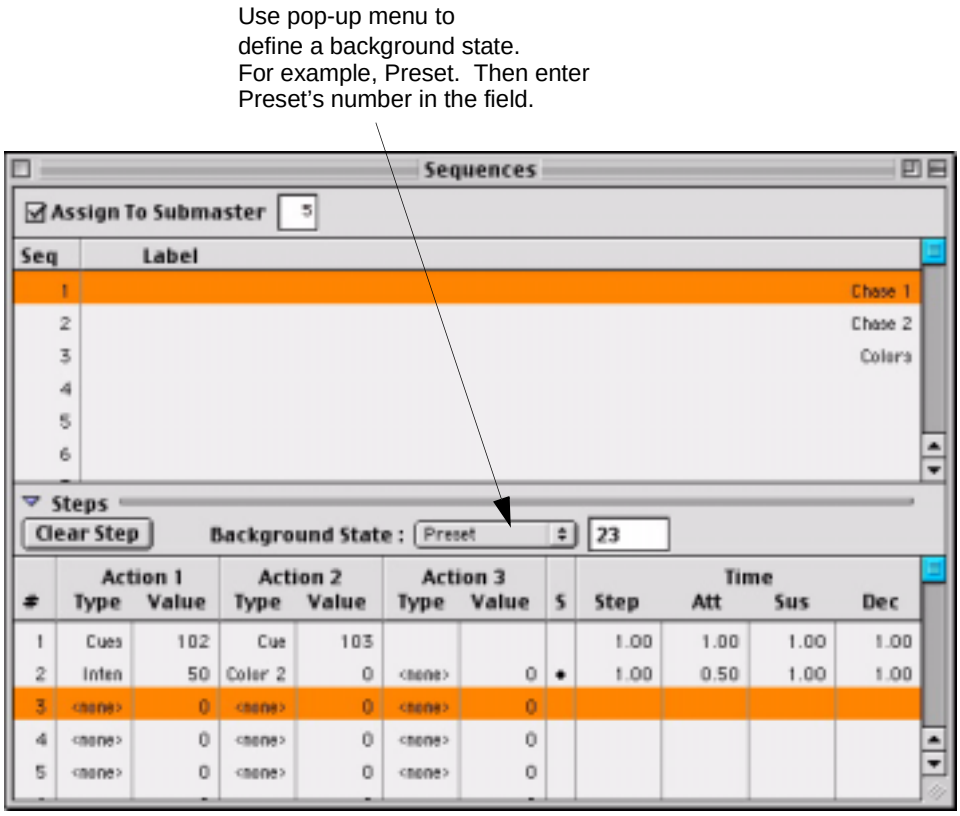
b. At bottom select display, choose a color, preset, beam, etc. and release Step select button.

From Sequences Window

Define a background state:

Step 1. Select a sequence.

Step 2. At Background State pop-up menu, select an action.



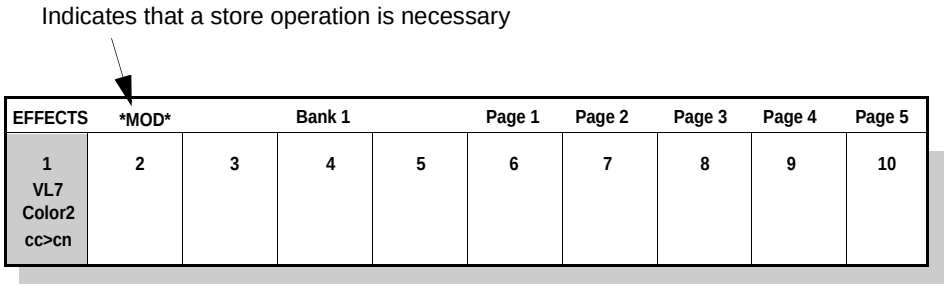
Creating Effects

Effects can be created using the command-line keypad, Effects Control panel, or Effects window.

When creating effects, the current settings for the Direction, Mode, and Start buttons will be stored upon a store operation. (For creating basic effects, you can use the default direction, mode, and start selections.)

The default timing settings can also be used. In this case, without a specific duration time, the effect will run until it is stopped or another event replaces it in the submaster. Duration and cycles will be covered in the Advanced Effects chapter.

When changes have been made to an effect, *MOD* will be displayed in the Effects select display to indicate that a store operation is necessary in order to save changes. If a new effect is selected before storing, changes will be lost.



From Keypad

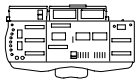
Use sets and sequences to create an effect:

Note: The default set is Set 0, which contains all patched channels as a single part. If you plan to use Set 0, programming a set will not be necessary.

Step 1. Press [Effect] [n] [Set] [n] [Seq] [n] [Enter] to define a set and sequence for Effect n. (Changes will be reflected in Effects Control display with "Effect" highlighted.)

Step 2. Press [Store] [Effect] [n] to store changes.

From Effects Select Display (Virtuoso Console)



Define a sequence for your effect:

Step 1. Press [Effect].

Step 2. Press [Effect Select Button] of effect number you wish to create.

Step 3. Press [Seq].

SEQUENCES			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
Color1	Color2	Color3	4	5	6	7	8	9	10

Step 4. Press [Sequence Select Button] of sequence you wish to add to effect. (Select will highlight in display.)

Step 5. Press [Set].

SETS			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
VL5	VL6	VL7	Truss1	5	6	7	8	9	10

Step 6. Press [Set Select Button] of set you wish to add to effect. (Select will highlight in display.)

Step 7. Press [Effect]. (Display will switch back to Effects.)

EFFECTS			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
1 VL7 Color2 cc>cn	2	3	4	5	6	7	8	9	10

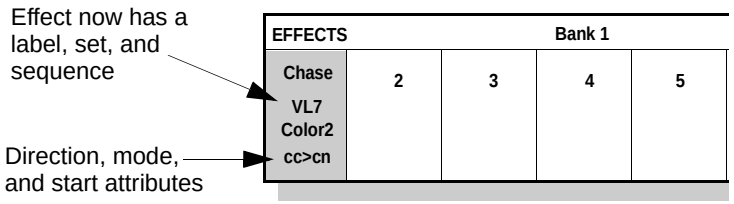
Effect	1	Chase1
Set	3	VL7
Sequence	2	Color2

effect times

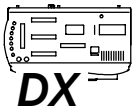
fIn	fOut	dur	step
00.00	00.00	00.00	00.00

Step 8. Press [Store] / [Effect Select Button] to store changes into effect.

Label your effect by pressing [Label] / [Effect Select Button] [xxxxxx] [return].



From Effects Select Displays (Virtuoso DX Console)



Use sets and sequences to create an effect:

Step 1. At Effects Control, press [Effects]. Selects will display Effects, Sets, Sequences.

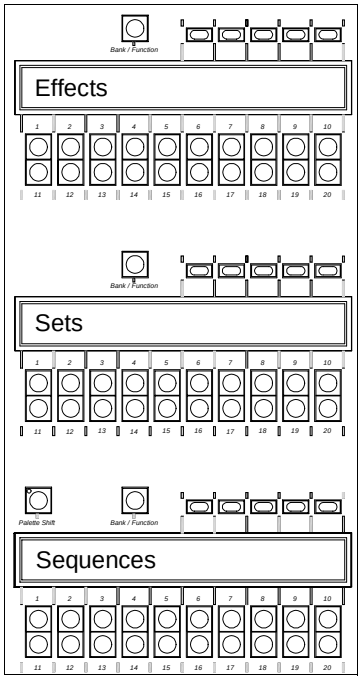
Step 2. At Effects select display, select an effect to create.

Step 3. At Sets display, select a set.

Step 4. At Sequences display, select a sequence.

Step 5. Press [Store] / [Effect Select Button] to store selected set and sequence into effect.

Step 6. Label your effect by pressing [Label] / [Effect Select Button] [xxxxxx] [return].

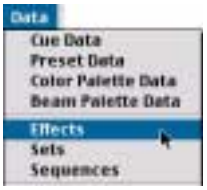


From Effects Window

Use sets and sequences to create an effect:

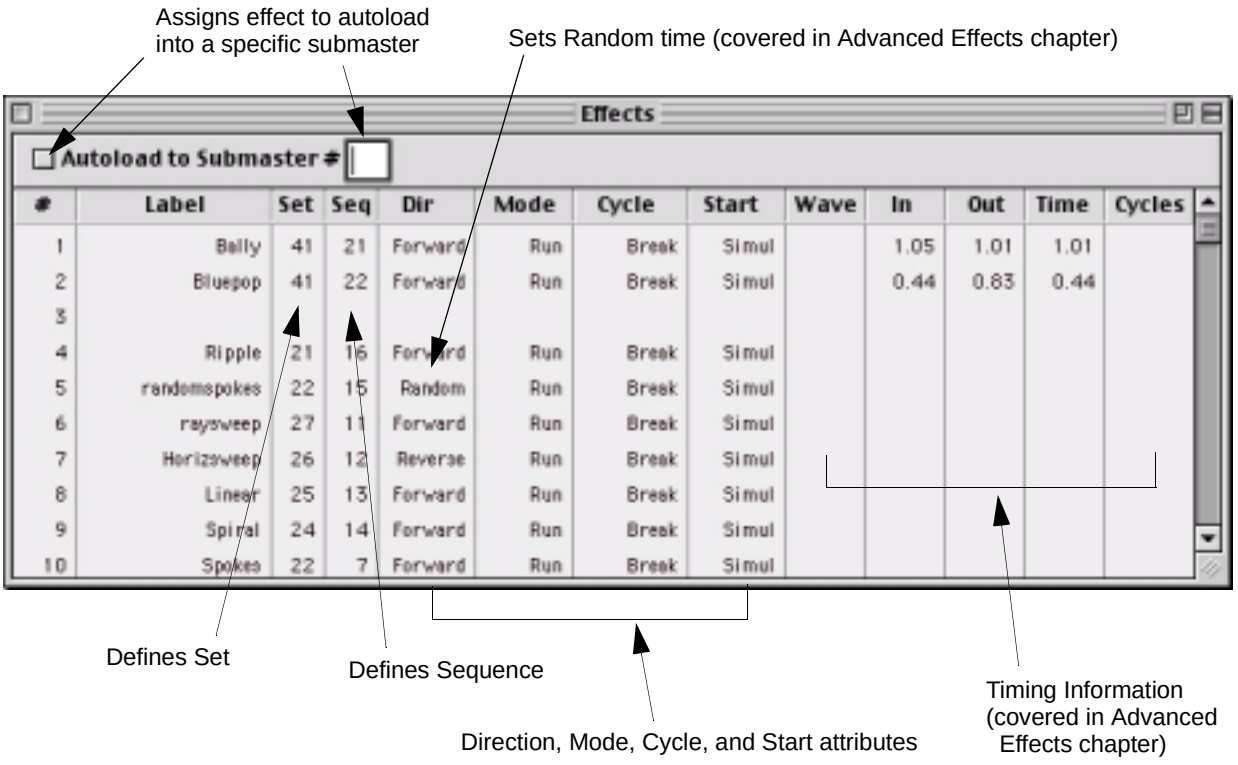
Step 1. At Data menu, select Effects. Effects window will open.

Step 2. Using cursor, enter sequence and set information for each effect.



Note: One pre-programmed set is available, which contains all patched channels as a single part. To use Set 0, enter 0 as the set number.

Step 3. Using keyboard, label as required.


Assigns effect to autoload into a specific submaster
Sets Random time (covered in Advanced Effects chapter)
Effects
Autoload to Submaster #
Label Set Seq Dir Mode Cycle Start Wave In Out Time Cycles
1 Bally 41 21 Forward Run Break Simul 1.05 1.01 1.01
2 Bluepop 41 22 Forward Run Break Simul 0.44 0.83 0.44
3
4 Ripple 21 16 Forward Run Break Simul
5 randomspokes 22 15 Random Run Break Simul
6 raysweep 27 11 Forward Run Break Simul
7 Horizsweep 26 12 Reverse Run Break Simul
8 Linear 25 13 Forward Run Break Simul
9 Spiral 24 14 Forward Run Break Simul
10 Spokes 22 7 Forward Run Break Simul
Defines Set
Defines Sequence
Direction, Mode, Cycle, and Start attributes
Timing Information (covered in Advanced Effects chapter)

Storing Effects as Cues

Effects can also be stored as cues using the Link feature. This will allow you to embed an effect into the cue list. The effect will be linked to a standard cue number and will be treated as a cue by the submasters during playback. Any advanced cue attributes can be applied to the effect cue just as any standard cue. Refer to cue storing instructions throughout this manual.

Store an effect as a cue:

- [Store] <Cue> [n] [Link] [Effect] [x] [Enter] - stores effect (x) into the specified cue number (n). (Current stage look is not included.)

Store an effect as a cue and label:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Store] <Cue> [n] [Link] [Effect] [x] [Label] [xxxxxx] [return].

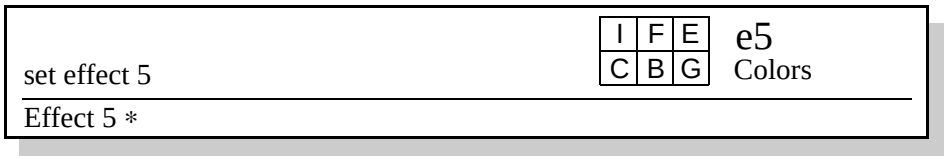
Playback

Basic Playback

After creating an effect, it can be played back using a submaster. (Unless a duration or cycle count is specified, the effect will run until stopped.)

Play an effect:

Step 1. At keypad, press [Effect] [n] [Enter] or select an effect at Effect Select display. It will be displayed by number and label in keypad display.



Step 2. At desired submaster, press [Select] to select submaster for playback function.

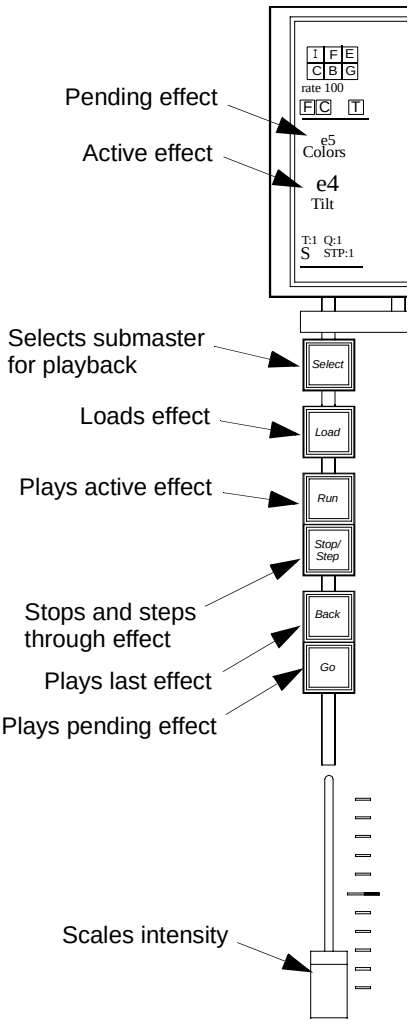
Step 3. Press [Load] to place effect in submaster's pending file.

Step 4. Ensure Grand Master fader is set at full.

Step 5. Ensure submaster fader is 100%.

Step 6. Press [Go] to play effect. Display will indicate set, sequence, and step numbers as they run.

Step 7. Press [Run] to replay effect once it is active.



Play next effect:

The submaster always sequences, placing the next available effect in the pending file.

- Press [Go] to play back pending effect.

Play previous effect:

The submaster can play back previously played effects in decrementing order.

- Press [Back] to play previous effect.

Stop/Step:

A running effect can be stopped and then stepped through one step at a time.

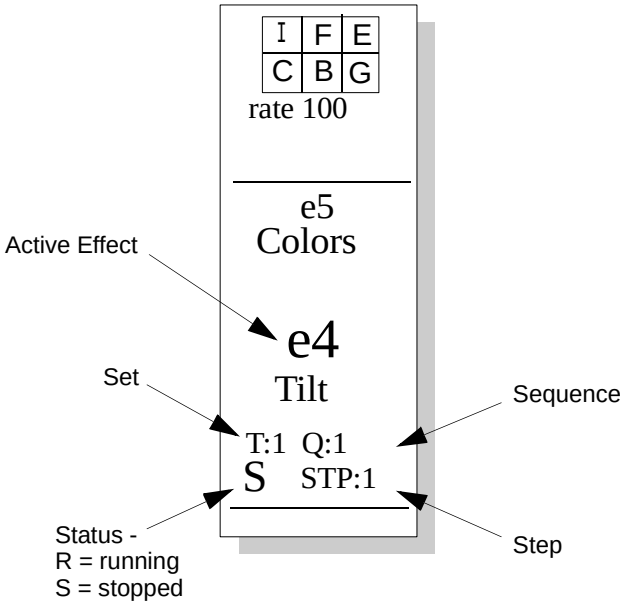
Step 1. Press [Stop/Step] to stop a running effect.

Step 2. Press [Stop/Step] repeatedly to step through effect.

Step 3. Press [Run] to resume playback.

Submaster Display

The submaster display indicates the effects attributes as they play back.



CHAPTER 9.

Timing/Filter Displays

This chapter provides instructions for using the timing and filter displays, which will give you expanded control over the console's store and playback functions.

- **Overview**
- **Timing Mode**
- **Filter Mode**
- **Dynamic State Mode**
- **Sneak Mode**
- **Templates**

Overview

Timing/Filter Features

Another way to expand your control of console operations is by using the timing/filter features. These features, which also include dynamic state and sneak controls, can be used alone or in conjunction with the command-line keypad to apply parameter timing values and filters during store and playback operations, and to manually control luminaires.

The timing/filter feature has four modes:

- **Timing Mode** - used to apply timing, delay, and speed values to any and all combinations of parameters.
- **Filter Mode** - used to withhold (or mask) information from a preset or a cue, and to control what is recalled in a submaster or select display.
- **Dynamic State Mode** - used to apply pre-packaged effects (states of motion) to channels or groups of channels to be stored as cues.
- **Sneak Mode** - used to graphically display command-line entries and to create manual control moves "on-the-fly."

All four modes can be accessed at the console touch screen and/or Timing window.

General Touch Screen/Window Operations

Operation of the timing/filter feature from the touch screen (available at the console front panel) or the Timing window (available from the Panels menu) operate nearly identically.

Selecting Modes

The mode (or function) is selected by pressing one of four buttons at the left of the touch screen or by clicking the appropriate tab at the top of the Timing window. Only one mode is visible at a time, although in the case of the filter mode, it does not have to be visible for selected filters to affect console operation.

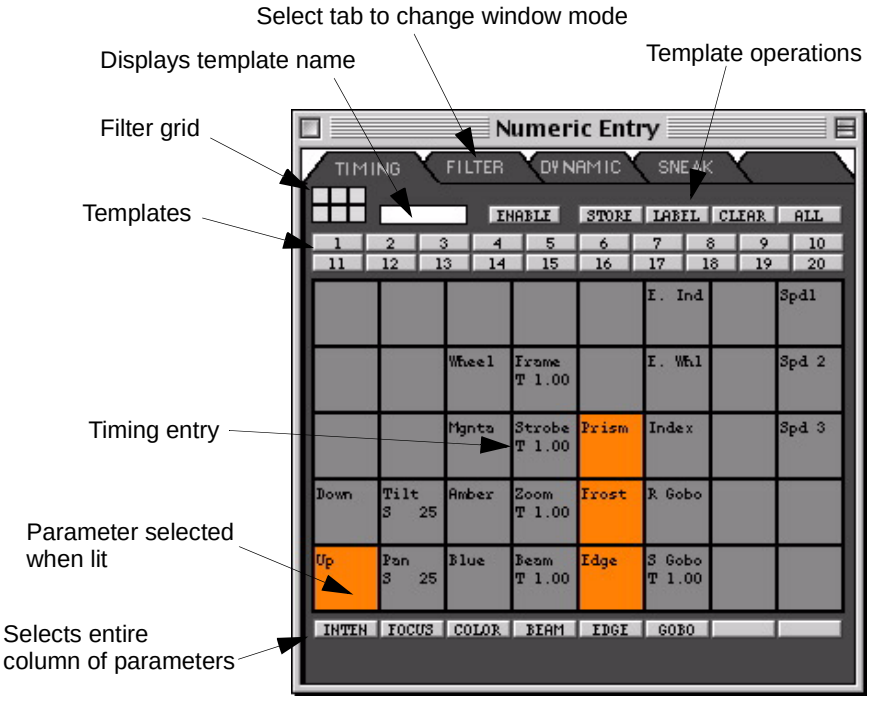
Setting Parameters

Once a mode has been selected, you can select parameters by touching the appropriate location on the screen itself or by clicking their boxes in the window and when necessary, enter values using the command-line keypad.

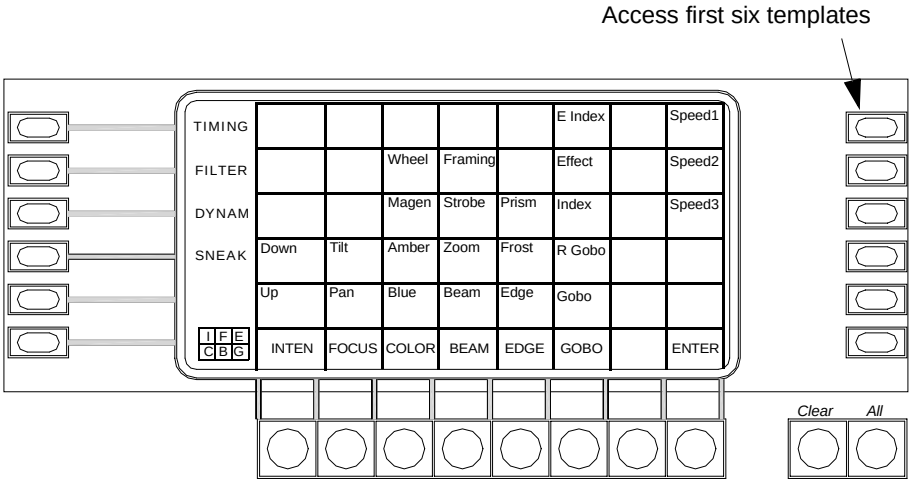
Depending on the mode, Enter or To Cue must be pressed before settings will be applied to store or playback operations.

Templates

The template section of the window provides 20 programmable templates, which can be used with the Timing, Filter, and Sneak modes to store your most-used settings. When in Timing Mode, the templates are for time settings; when in Filter Mode, the templates are for filter settings; etc.



In addition to the template access buttons in the window, some of the templates associated with each mode can be accessed using the Template Select Display (Virtuoso console) or six buttons to the right of the touch screen (Virtuoso DX console).



Note: Refer to "Templates" on page 172 for complete instructions on templates.

Timing Mode

Overview

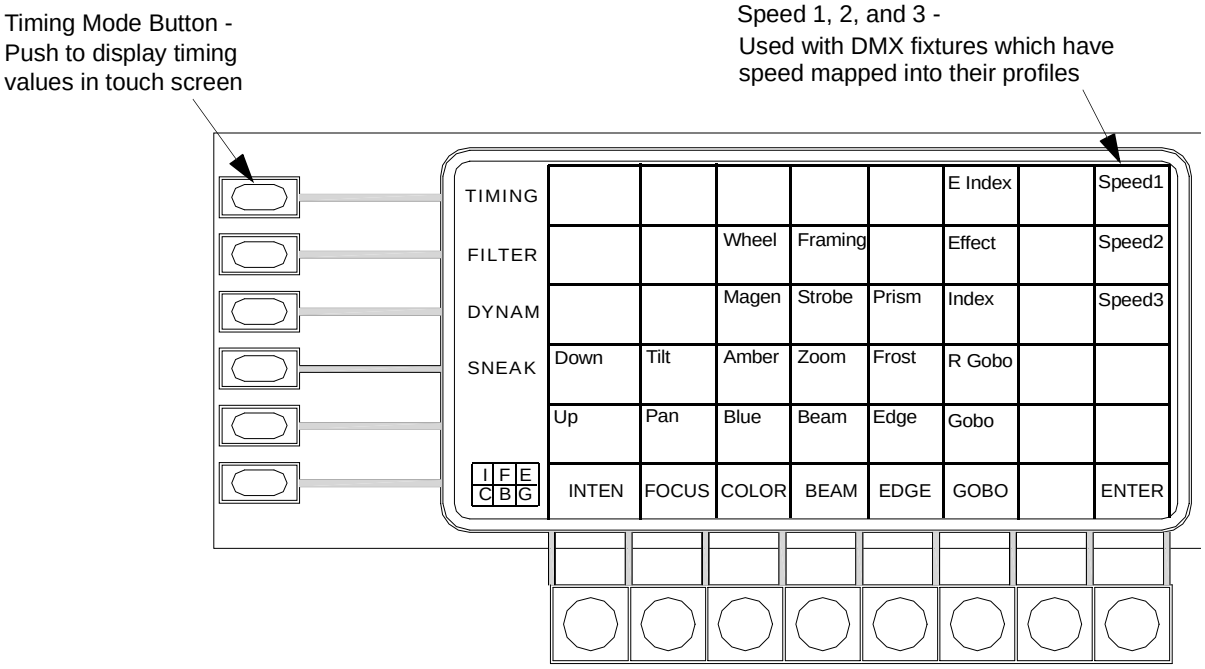
Timing is used to control the duration, delay, and speed of parameter transitions. For example, the timing features can be used to define how fast a luminaire will pan from one position to another and how long it will take for its intensity to fade from 0 to 100 percent.

Timing (total transition time), delay, and speed values can be applied to any and all combinations of parameters within a cue. Timing *or* speed can be entered along with a delay, but not both. These values can be different for each parameter of each luminaire as required. For example:

Cue 1 contains Luminaire 1 and Luminaire 2.

A different timing value can be applied to each of Luminaire 1's parameters. For instance, Focus = 2:00, Edge = 00.30, Zoom = 1:30, and Color = 00:15.

Different timing values can be applied to Luminaire 2's parameters. For instance, Focus = 4:00, Edge = 03.30, Zoom = 2:45, and Color = 01:15.



Time/Speed Formats

Time

Time controls the duration of change for any parameter.

Guidelines:

- Each parameter can have an individual time.
- Intensity can have both an up and down fade time. The direction of the intensity transition at the time of playback determines which of those two values is used.
- Cue timing includes the movement of longest duration (combination of delay and time) and the longest intensity transition (combination of delay and up/down fade time).
- Filtered values contribute to these times.
- Masked values do not contribute to these times.
- A parameter cannot have both a time and a speed although it can have a time and delay, or speed and delay.

Time is entered at the keypad in minutes and seconds, seconds, or seconds and tenths of seconds. (Maximum time entry is 59:59.)

Entering whole numbers will be interpreted as total seconds:

- [2] [5] = 25.00 (25 seconds)
- [9] [0] = 90.00 (90 seconds)

A colon (:) is entered by pressing [.] [.]:

- [2] [.] [.] [5] = 2:05 (2 minutes, 5 seconds)

Fractions of seconds are entered by pressing [.]:

- [1] [.] [3] = 1.3 (1.3 seconds)
- [.] [5] = .5 (1/2 second)
- [3] [5] [.] [5] = 35.5 (35 and 1/2 seconds)

Delay

Delay time begins counting from cue execution and delays the playback of any parameter.

Speed

Speed is the rate of change for any parameter.

Speed attributes for VARI✳LITE luminaires:

- A speed of zero is a full stop for all luminaires.
- All luminaires operate up to a speed between 200 and 400.
- Any luminaire set for a value above its maximum speed, will operate at full speed.

Luminaire Type	Rate (Degrees Per Second)	Maximum Speed
VL2B/VL2C	120	200
VL4	240	400
VL5	220	400
VL6/VLM	280	400
VL7	150	400

Note: Speed is not supported for any DMX fixtures (which includes VL2000™ Series luminaires).

Timing Mode Operation

The Timing screen is used to define an entire timing scheme, which can then be sent to selected luminaires using the Timing Enter button. The screen/window is also used to specify the target of timing entries made at the command-line keypad. When the Timing mode is selected, current timing, delay, and speed information is displayed within the cell of its associated parameter.

Guidelines:

- Pressing the Timing Enter button sends all parameter timing values to selected luminaires whether the parameter is selected (highlighted) or not.
- Entries made at the keypad will be sent directly to any parameters selected (highlighted) in the Timing screen/window. For example, if "Blue" is selected at the Timing screen/window and a command-line entry such as [Time] [5] [Enter] is made, then the time value will be sent directly to the mechanism mapped to the Blue encoder of any selected luminaires. De-selected parameters in the Timing screen/window would not receive this value.

Use the examples below to send all values in the Timing screen or individual values to luminaires as required.

Set an entire timing scheme:

Step 1. At screen/window, select a parameter(s).

Step 2. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value. Time value will appear in cells of selected parameters.

Step 3. Repeat steps 1 and 2, selecting different parameters and entering new values.

Step 4. Select channels as required.

Step 5. Press Timing [Enter] button to send all values.

Send a timing value directly to a selected parameter:

Step 1. Select channels as required.

Step 2. At screen/window, select a parameter.

Step 3. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value and then [Enter]. Time value will appear in cell of selected parameter at screen/window and be sent directly to selected channels.

Clear Timing screen of all values:

If timing values are cleared (as opposed to zero), existing timing information for that parameter in the luminaire will be left intact upon pressing [Enter].

- Press Timing [Clear] (located below touch screen).

Clear the value of any individual parameter:

Step 1. Select channels as required.

Step 2. At screen/window, select a parameter.

Step 3. At keypad, press [Time] [Enter].

An example of setting edge and focus timing:

Step 1. Select channels as required.

Step 2. [Edge] [Focus] [Time] [.] [5] [Enter] - sets timing value for edge (edge, frost, effect, prism), and focus (pan, tilt) to one-half second.

An example of setting focus delay time:

Step 1. Select channels as required.

Step 2. [Focus] [Time] [1] [.] [0] [Delay] [.] [5] [Enter] - sets the timing values for focus (pan, tilt) to 1 second with a one-half second delay.

Set color delay time:

Step 1. Select channels as required.

Step 2. [Color] [Time] [n] [Delay] [m] [Enter] - sets all color timing to n seconds, with an m second delay.

Set intensity delay time:

Intensity timing can have two values: one which controls the intensity transition if the intensity is fading to a higher level (up time) and one which controls the transition if the intensity is fading to a lower level (down time).

Step 1. Select channels as required.

Step 2. [Intensity] [Time] [1] [.] [0] [Delay] [.] [5] [Enter] - sets the up and down times to 1 second, with a one-half second delay.

Set intensity up *or* down time:

Step 1. Select channels as required.

Step 2. Select [Up] or [Down] to select one individually, then press [Time] [1] [.] [2] [Enter] - sets the up or down fade time to 1.2 seconds.

Shortcut **Set intensity up *and* down time while storing a cue:**

For this shortcut, the first Time entered is always Up and the second is Down.

Step 1. Select channels as required.

Step 2. Ensure all parameters at Timing screen are deselected.

Step 3. Press [Store] [Cue] [x] [Time] [m] [Time] [n] [Enter] - stores Cue x with an up time of m and a down time of n.

Set timing back to zero:

Step 1. Select channels as required.

Step 2. At screen/window, select a parameter.

Step 3. Press [Time] [0] [Enter].

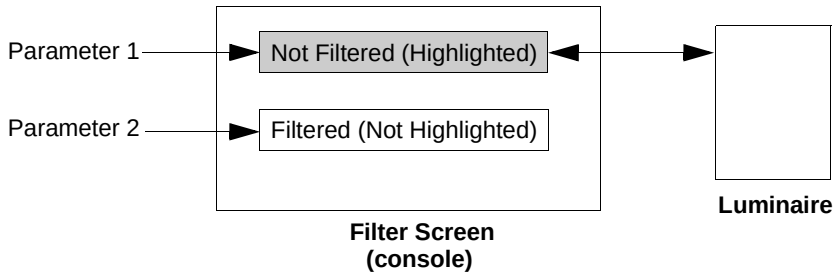
Hint Time and delay values stay in a luminaire until changed or set back to zero. Use the Luminaire Status window with time ( ) selected to view current timing and delays. To clear delay timing, select channel and appropriate parameters in the Timing window and set delay to 0.

Filter Mode

Overview

Filters are used to withhold (or mask) certain parameters or parameter attributes from a preset or a cue, and to control what is recalled in a submaster.

Important It is important to note the exact meaning of the term “filter” as used in Virtuoso console operation. When a parameter is *not filtered* (i.e. selected/highlighted at the Filter screen), its data would be transferred during any subsequent store or recall operations. When a parameter is *filtered* (i.e. *not* selected/highlighted), its data would be withheld from a data transfer. This is represented graphically in the following illustration:

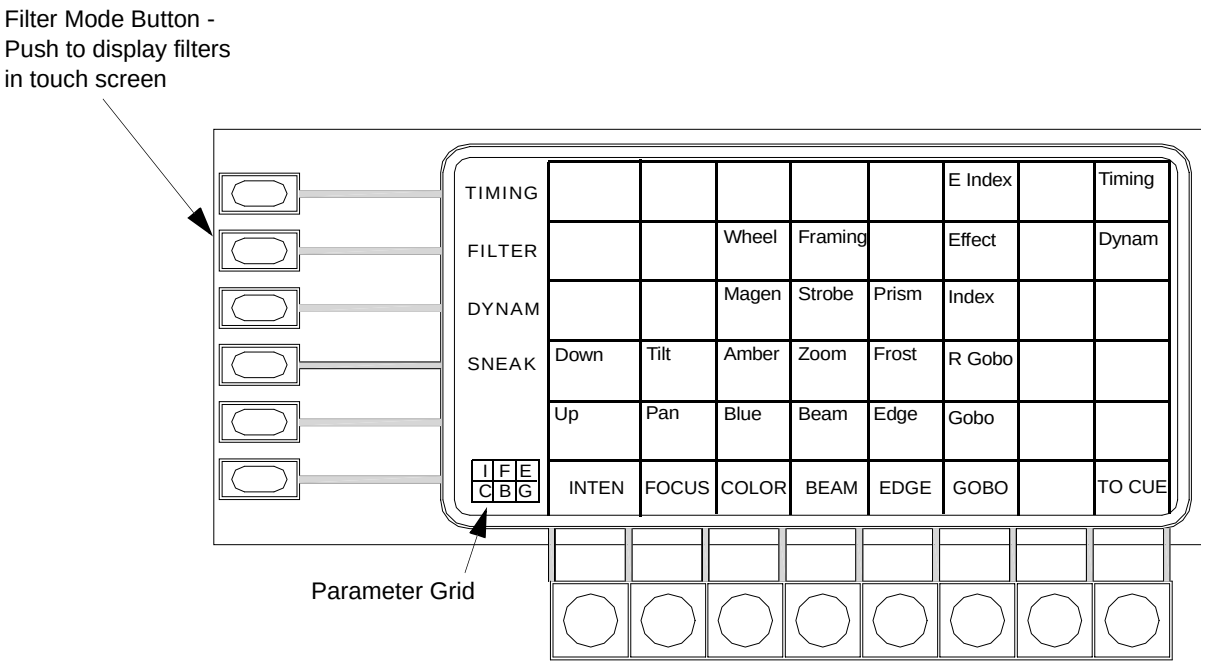


Guidelines:

- The timing filter is globally applied, not individually for each parameter. When a parameter is filtered, its time is also filtered. This is always true except if a Selective Store is performed with only time selected. In this case you will get all the times for all parameters.
- Filters affect selective store and selective recall commands (refer to “Selective Store” on page 217 and “Selective Recall” on page 218).
- Filters have no affect on the recall of presets or update commands (refer to “Update” on page 216).
- Filters have no affect on the playback of cues, unless those filters have been applied to a submaster (refer to “Function Filter” on page 246).
- The Filter screen does not have to be visible for selected filters to affect console operation. For this reason, the touch screen provides an indication that filters are selected by highlighting them in the parameter grids located at the bottom left of the touch screen, in the command-line display, and in the submaster displays.

Masking

When a filter is applied during a cue store operation, values for all parameters are stored, although some have been excluded from playback (filtered). This method of filtering, utilized by the Virtuoso console, is called "masking." It is important to keep this concept in mind when storing cues with filters because during some playback situations, the values which were "masked" can intentionally or unintentionally be recalled. This situation can occur when a filter or "mask" has been applied to a cue and a second filter is applied to the submaster which is playing back that particular cue. Refer to "Function Filter" on page 246 for information on playing back cues which have stored masks.



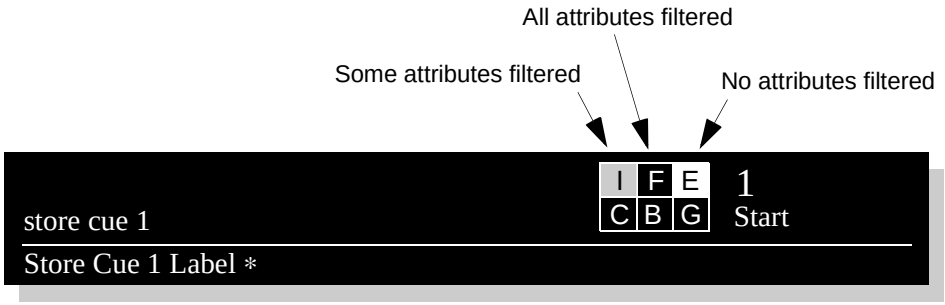
Filter Mode Operation

When the Filter mode is accessed, by default, all parameters are selected (not filtered). Change filtering for parameters as follows:

- To prohibit the store or recall of all attributes of a parameter, use the button located just below the screen to deselect all.
- To prohibit the store or recall of one attribute of a parameter (zoom, for example), select the appropriate cell on the screen to deselect.

The parameter grids at the screen, command-line display, and submaster displays indicate the filtered (or non-filtered) state of each parameter. The Filter [To Cue] button must be pressed before the command-line or submasters grids will reflect the filter settings.

- When none of a parameter's (I, F, E, C, B, G) attributes are filtered, its box is highlighted.
- When some of a parameter's attributes are filtered, the box is gray.
- When all of a parameter's attributes are filtered, its box is clear.
- After adjusting the filter settings, the filters can be applied to preset or cue store and playback functions.



Applying Filters To Cues

The Filter [To Cue] button is used to apply filters to a cue store operation.

Using filters while storing cues:

Step 1. Set filters as required.

Step 2. Press filter [To Cue]. The filter state will be applied to all cues stored from this point on, until changed.

Step 3. Store cue as usual (refer to "Storing" on page 119).

Applying Filters To Beam Select

Filters can be applied to Beam select store operations. Beam selects will store information based on the filters set in the Beam, Gobo, and Edge columns of the Filter window.

Applying Filters To Color Select

Filters can be applied to Color select store operations if the system default setting is changed accordingly. Refer to "Settings Window" on page 258 for instructions on setting this default. Store colors as usual, using filters as required.

Applying Filters To a Submaster

When a filter is applied to a submaster, the associated parameter data will be withheld from playback in the case of an effect or unmasked cue. Applying a filter to a submaster may force the playback of masked parameters of a cue.

Note: For more detailed instructions on using the submaster Function Filter feature, refer to "Function Filter" on page 246.

Apply filters to a submaster:

Step 1. Set filters as required.

Step 2. At submasters panel, press [Func Filter] / [Choose] of required submaster.

Clear filters from submaster:

Step 1. Clear all filter selections.

Step 2. Press [Func Filter] / [Choose] at submaster to clear.

Dynamic State Mode

Overview

Dynamic states are pre-packaged actions (states of motion) which can be applied to channels or groups of channels and then stored in cues. They provide a quick way of creating cues with luminaire actions such as Figure 8's, Ballyhoos, and Circles.

There are thirteen dynamic states divided into five categories.

Focus - Circle, Figure 8, and Ballyhoo (all fixtures).

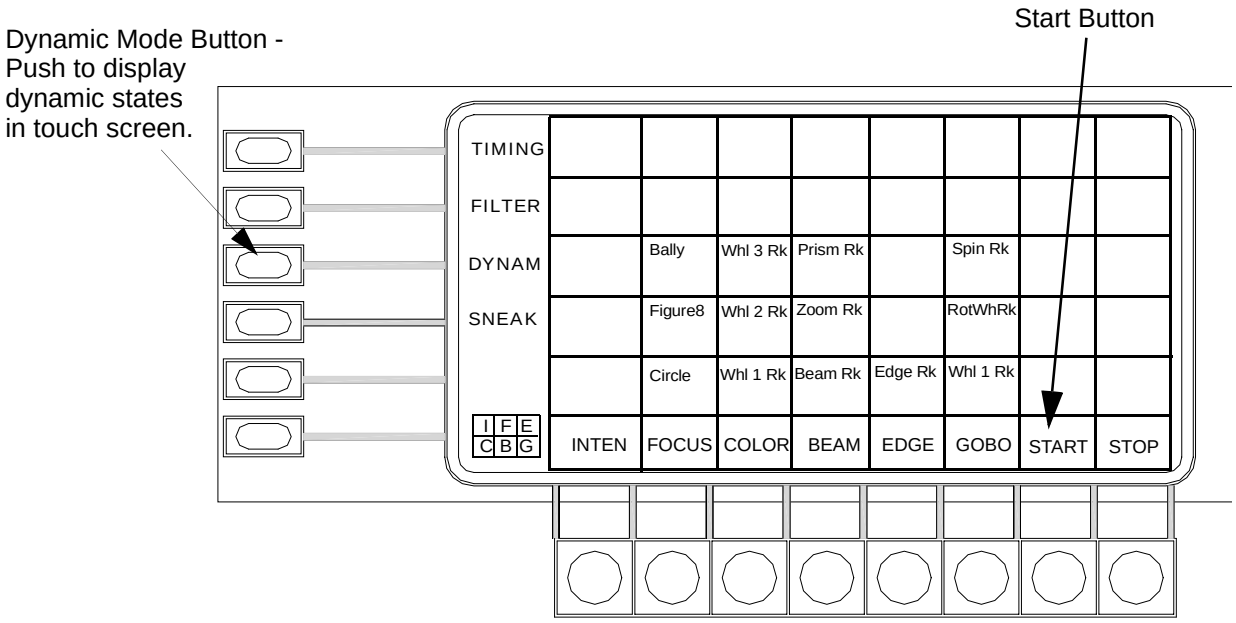
Color - Blue Rock, Amber Rock, and Magenta Rock (DMX fixtures only).

Beam - Beam Rock, Zoom Rock, and Prism Rock (DMX fixtures only).

Edge - Edge Rock (DMX fixtures only).

Gobo - Gobo Rock, Rotating Wheel Rock, Spin Rock (DMX fixtures only).

Note: A channel may have multiple dynamic states, provided they are not conflicting.



To start a dynamic state:

Step 1. Select dynamic state(s).

Step 2. Adjust parameters, if desired.

Step 3. Press [Start] button.

To stop dynamic states:

If multiple dynamic states are running do one of the following:

- Select each dynamic state running and the stop button .
- Recall a cue that does not have a dynamic state.

When a dynamic state is stopped, the luminaires will return to their last static position prior to executing the dynamic state.

Dynamic State Attributes

Each dynamic state has three adjustable parameters: orientation, size, and speed.

Orientation

Not implemented in this software version.

Size

Size determines the size of the luminaire's path during a dynamic state. This can be adjusted using the Dynamics soft encoder set.

For example, increasing the size of a Figure 8 would result in a larger "8" by enlarging the path of travel for the luminaires.

Rate

Rate determines the speed the luminaires will move once they are in the dynamic state. The parameter timing dictates the amount of time the luminaire is to move from its current position into its dynamic state. This can be adjusted using the Dynamics soft encoder set.

For example, assume that channels 1 through 10 are placed in a dynamic circle state, with a size of n and a rate of x. When the dynamic state is stored into a cue, the pan and tilt parameters for channels 1 through 10 have a delay of 2 seconds and time of 10 seconds. When that cue is played back, the pan and tilt action will hold for 2 seconds. They will then take 10 seconds to transition from their previous states to the full position required by the beginning of the dynamic state. When those 10 second have elapsed, they will begin the standard dynamic state transitions, following the rate associated with the dynamic state.

Adjusting Parameters

When the Dynamic mode is selected, the screen/window changes to allow selection of dynamic states. Select states by pressing or clicking the appropriate button. Once a state has been selected, its orientation, size, and speed can be adjusted using the manual control soft encoders.

With dynamic state running, at soft encoder display, select [Dyn]. The soft encoders will be mapped as follows:

Encoder 1- ORIENT (min/max)
Encoder 2 - SIZE (min/max)
Encoder 3 - RATE (min/max)

Using encoder knobs and min/max buttons, adjust parameters as required.

Storing Dynamic States as Cues/Presets

Dynamic states can be applied to luminaires or groups of luminaires and stored as a cue or preset.

Storing guidelines:

- When stored into a cue/preset, the state information, as well as the established size, speed and axis (controlled from the encoders) are stored.
- When stored into a cue/preset, the parameters affected by the dynamic state will follow the timing information for those parameters before assuming any dynamic state speed information.
- A dynamic state must be running in order to be stored as a cue/preset.

Note: Luminaires incapable of an action will ignore the command. For example, a luminaire without a color wheel would not respond to a “Spin Color Wheels” state.

Store a dynamic state:

Step 1. Select required channel(s).

Step 2. At screen/window, select desired state. Luminaires will assume dynamic action.

Step 3. At soft encoder display, select [Dyn]. Adjust applicable encoders and min/max buttons to set axis, size, and speed.

Step 4. Store cue or preset as usual.

Palette: Store Dynamic Only

Some DMX fixtures have parameter, control or function channels mapped to the shifted encoder of an associated parameter. These values will show up in status and data windows as a dynamic associated with the parameter, with the type TCtrl. These dynamics are different from normal dynamics (such as rock or ballyhoo) in that they are not started or stopped, and are not affected by the dynamic disable. They are always active and sending the current value of the DMX function channel, and will always show in the Luminaire Status window.

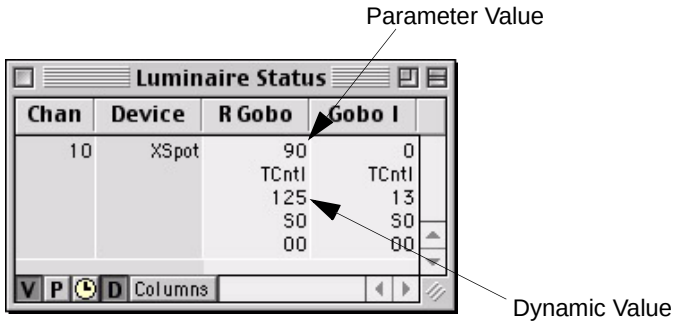
The Store Dynamic Only feature enables the creation of color or beam palette entries that include ONLY the dynamic value, not the parameter value. You can also create palette entries that are only the parameter value, or the parameter value and the dynamic value.

Note: This functionality is not available for Presets, Selective Store, Selective Recall, or Effect Sequences.

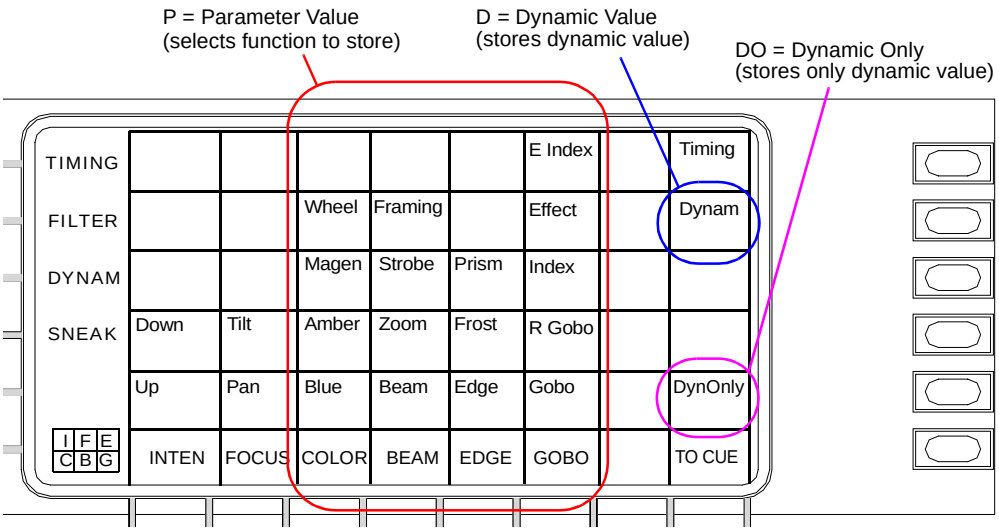
To understand how the filter determines which values are stored, a short explanation and example are included below.

By using the filter window, you can store these two types of values together or separate as required. The following is a breakdown of possible combinations:

P = Parameter Value, D = Dynamic Value, DO = Dynamic Value Only



- With P selected, P will be stored.
- With P and D selected, both P and D will be stored.
- With P and DO selected, only the D value will store for the P selection (the D setting is not important in this case).
- With D or DO selected, without P, nothing will store.



How To Store Dynamic Only Values

Note: For color palette settings where the filter selection is not used, all the color parameters still store the dynamic data.

To store Dynamic Only values, do the following:

Step 1. At filter window, select parameter of function channel to be stored.

Step 2. Select DynOnly.

Step 3. Store palette entry as normal.

Note: When working with the Color Palette, the settings window will change the functionality. Set the "Use Func. Filter on Color Store" setting for best results.

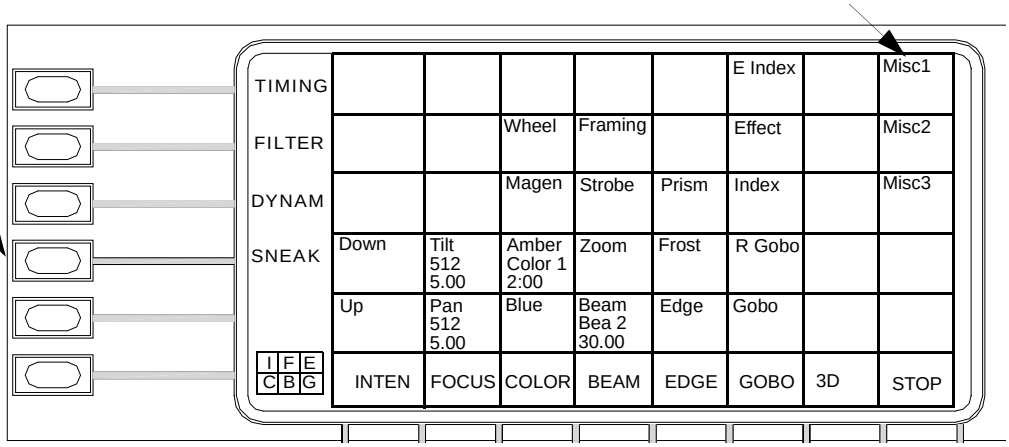
Sneak Mode

Overview

The Sneak Mode works in conjunction with the command-line keypad to provide manual control of luminaires. Sneak provides a means of creating manual control moves "on-the-fly." Attribute values, presets, color, beam, and cue data can all be assigned to parameters and then recalled using manual time or speed, VARI✳LITE luminaire time, or by pressing Enter. This allows you to "sneak" in a move, not originally programmed, during programming or the playback of a show.

Misc. 1, 2, and 3 -
Used with DMX fixtures which have extra control mapped into their profiles, such as control channels that need a value.

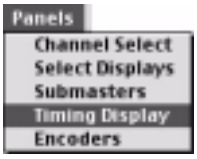
Sneak Mode Button -
Push to display sneak parameters in touch screen

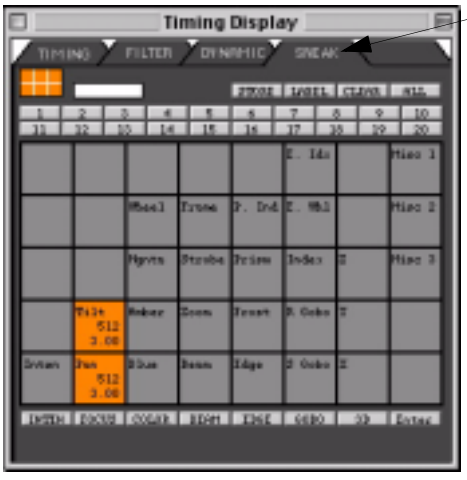


Sneak data can be viewed from the panel touch screen or as a Mac window.

To access the Mac window:

At Panels window, select Timing Display. Click on the Sneak tab.





Sneak Mode Values

Sneak parameter data is entered using the touch screen window and [Sneak] button. After the sneak operation has been defined, pressing the Sneak Enter button will cause all selected luminaires to move into the new data defined in the screen/window.

Note: Sneak does not work with shifted parameters.

Use discrete numbers from the following ranges for parameter values:

Function	DMX Generic	Series 300	VL7/VL7B
Intensity	0-100	0-100	0-100
Pan*	0-65535	0-1023	0-1023
Tilt*	0-65535	0-1023	0-1023
Blue	0-255	0-335 (VL5/VL5Arc/VL5B)	0-255
Amber	0-255	0-335 (VL5/VL5Arc/VL5B)	0-255
Magenta	0-255	0-335 (VL5/VL5Arc/VL5B)	0-255
Color Wheel	0-255	0-191 (VL6/VL6B)	n/a
Gobo Wheel	0-255	0-191 (VL6/VL6B)	0-191
Gobo Index	0-255	0-360 (VL6/VL6B)	0-360
Rotating Gobo	0-255	0-5 (VL6B only)	0-360
Beam	0-255	0-127 (VL6/VL6B)	0-127
Zoom	0-255	0-255 (VL6/VL6B)	0-100
Edge	0-255	0-335 (VL5/VL5Arc/VL5B) 0-127 (VL6/VL6B)	0-513
Frame	n/a	n/a	0-255 (VL7B)
Strobe	0-255	**VL6/VL6B only** 0 = open 1-9 = closed 10 = slow random 11 = med. random 12 = fast random 13-127 = strobe	0 = open 1-9 = closed 10 = slow random 11 = med. random 12 = fast random 13-127 = strobe

*Pan and Tilt sneak values can only be entered in the value range 0-1023. For luminaires with a bigger range, the sneak value will be converted and will display correctly in the Luminaire Status window. Home position = 512.

Sneak Mode Operation

When the Sneak mode is selected, the screen/window changes to allow modification of parameter values. Values are entered numerically at the keypad.

Perform a sneak action using current timing information:

Step 1. Select channels as required.

Step 2. At touch screen or window, select Sneak mode. Select parameter(s) to be changed.

Step 3. At keypad, press [Sneak] and enter required value, press [Enter].

Step 4. At touch screen or window, select next parameter and enter its value using keypad.

Step 5. When complete, press Sneak Enter. Selected luminaires will move to their new instructions.

Sneak to a preset (same for color and beam):

Step 1. Select channels as required.

Step 2. At touch screen or window, select Sneak mode. select parameter(s) to be changed.

Step 3. At keypad, press [Sneak] [Preset] [x] [Enter] (where x is the discrete preset number) *or* press [Sneak] / [Preset Select button].

Step 4. Press Sneak Enter. Selected luminaires will now move as dictated by preset data.

To Sneak Cue data:

Step 1. Select channels as required.

Step 2. At touch screen, or window, select Sneak mode. Select parameter(s) to be changed.

Step 3. At keypad, press [Sneak] [Cue] [x] [Enter] (where x is discrete cue number).

Step 4. Press Sneak Enter. Selected luminaires will move to the cue selected.

Note: Cue numbers with decimals can be entered into sneak. For example, [Sneak] [Cue] [1] [.] [3] [Enter] will enter Cue 1.3 into the selected parameter. Even cues without a decimal value will be displayed as a decimal value (1 is 1.00).

Note: Sneak cue data will recall data only for the selected parameters from the given cue, which can be used as a selective recall tool.

Perform a sneak action using new timing information:

Step 1. Select channels as required.

Step 2. At touch screen or window, select Sneak mode. Select parameter(s) to be changed.

Step 3. At keypad, press [Sneak] and enter required value, press [Enter].

Step 4. To enter time, press [Sneak] [Time] and time value. Press [Enter].

Step 5. Press Sneak Enter. Selected luminaires will now move to their new values using their time settings.

Examples

- Pan [Sneak] [Time] [2] [Enter] will input a time of 2.00 seconds.
- Pan [Sneak] [512] [Time] [2] [Enter] will input the value 512 into Pan with a time of 2.00 seconds.
- Pan [Sneak] [512] [Time] [2] [.] [.] [Enter] will input the value 512 into Pan with a time of 2:00 minutes.
- Pan [Sneak] Cue [10] [Enter] will input cue data from Cue 10 into Pan.
- Pan [Sneak] [Speed] [20] [Enter] will input a speed of 20.

Templates

Creating Templates

There are 20 programmable templates associated with each mode of the Timing/Filter window. These can be used to recall frequently used filter, timing, sneak, and dynamic state settings. When the window is in Timing Mode, these are time templates. When the window is in Filter mode, these are filter templates, etc.

From Timing Window

Store a new template:

Step 1. Setup window as desired.

Step 2. Click STORE. Button will be highlighted.

Step 3. Click button (1-20) where you want to store template. Settings will be stored and STORE button will no longer be highlighted.

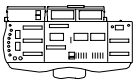
Step 4. Click LABEL.

Step 5. Click button of template to label.

Step 6. At keyboard, enter label and press [return].

Recall a template:

- Click button (1-20) of required template. Settings will be applied to window.



From Template Select Display (Virtuoso Console)

Store a new template:

Step 1. At touch screen select Timing, Filter, or Sneak.

Step 2. Setup screen as desired.

Step 3. At Template display, press [Template].

Step 4. Press [Store] / [Template Select Button].

Label a template:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] / [Template Select Button] [xxxxxx] [return].

Recall a template:

Step 1. At touch screen select Timing, Filter, or Sneak.

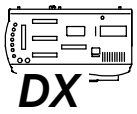
Step 2. Press [Template].

Step 3. Press required [Template Select Button].

Reflects the touch screen mode when Templates are selected.

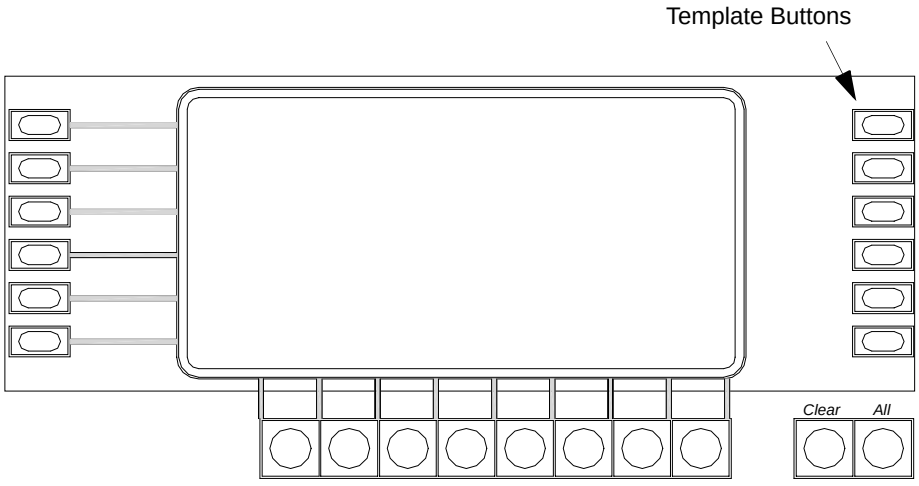
SNEAK			Bank 1		Page 1	Page 2	Page 3	Page 4	Page 5
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Note: Once a template is recalled, it may be necessary to press Enter to send values to luminaires.



From Touch Screen (Virtuoso DX Console)

The first six (of twenty) programmable templates can be accessed using the six buttons to the right of the Touch Screen. Once stored, the template can be accessed at any time by pressing the required button.

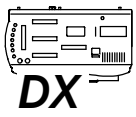


Store a new template:

Step 1. At touch screen select Timing.

Step 2. Setup screen as desired.

Step 3. Press [Store] / [Timing Template Button] (any one of the six buttons where you wish to store the template).



Recall a template:

Step 1. Press required [Timing Template Button].

Note: Once a template is recalled, it may be necessary to press Enter to send values to luminaires.

CHAPTER 10.

Special Features

This chapter contains instructions for controlling luminaires with the console's advanced features and for copying and moving programmed data.

- **Ad Hoc Groups**
- **Advanced Control**
- **Data Copy and Move**
- **Function Keys**

Ad Hoc Groups

Overview

"Storing, Modifying, and Recalling Groups" on page 99 provided instructions for storing groups of luminaires for the purpose of simplifying channel selection. These groups are generally based on luminaire types, truss positions, or other distinctions unique to your particular show. Ad Hoc groups, however, are a way of selecting channels "on-the-fly" which are not already pre-stored as a group. The Ad Hoc feature accomplishes this task by allowing you to select channels based on information such as "all channels in a specific preset" or "all channels in a specific color."

Creating Ad Hoc Groups

Ad Hoc groups can be created using the command-line keypad, select displays, specialty buttons, or the submasters.

From Keypad

- [Group] [Preset] [n] [Enter] - selects all active channels in Preset n (where n is the discrete preset number).
- [Group] [Color] [n] [Enter] - selects all active channels in Color n (where n is the discrete color number).
- [Group] [Cue] [n] [Enter] - selects all active channels in Cue n. (This does not affect the current position of those channels.)
- [Group] [At] [n] - selects all *active* channels with intensity value of n.

From Select Displays

- [Group] / [Preset Select Button] - selects all active channels in Preset n (where n is the discrete preset number).
- [Group] / [Beam Select Button] - selects all active channels in Beam Select n (where n is the discrete beam number).

From Submasters

- [Group] / [Choose] - selects all channels in the submaster's active cue.

Advanced Control

Manual Timing

The Manual Timing feature is used to apply parameter times manually. While Manual Timing is active, any manual changes via the selects or the encoder buttons will follow the timing currently active in the luminaire.

Activate Manual Timing:

Manual Timing is an alternate control state. It will be active until [Man Time] is de-selected.

- At Manual Control panel, press [Man Time] or at Special menu, select Manual Timing.

QuickFocus

The QuickFocus feature allows you to step sequentially through each stored channel in a selected preset to adjust its parameters. The new parameter data can then be stored into the preset. This allows you to easily isolate data so that it can be updated without affecting the remaining data in your preset.

QuickFocus is an alternate control state. It will be active until it is de-selected.

Update a preset with QuickFocus:

During QuickFocus, the entire preset is brought up live and all other outputs are disabled (as long as the console is still in QuickFocus mode).

Step 1. Press [Quick Focus]. Console will assume QuickFocus mode. (Or select QuickFocus from Special menu.)

Step 2. Select required preset by using preset select or keypad. All luminaires that have data from that preset will be selected and will bring up the preset live.

Step 3. Press [Next]*. First channel will stay active, while all other channels go to inactive state.

Step 4. Modify focus or other parameters as required.

Step 5. Press [Next]* to go to next channel. When the last channel with stored information has been brought up and adjusted, pressing the [Next]* button activates the entire modified preset.

Step 6. Re-store preset to save changes. Press [QuickFocus] to exit mode.

* Or [Last] as required.

Park

The Park feature allows you to place a luminaire into a state in which it will not respond to any manual or playback commands, nor will it store into any cues. This feature is useful for setting up work lights or other special lights that won't be part of the show.

Park a luminaire(s):

Step 1. Select required channel(s).

Step 2. At Special menu, select Park. Selected channels will now be parked.

Release a parked luminaire(s):

Step 1. At Special menu, choose Select Parked. All Parked luminaires will be selected.

Step 2. At Special menu, select UnPark. Luminaires will now respond to commands as usual.

Data Copy and Move

Copy Channel

The Copy Channel feature is used to copy current parameter settings from one luminaire to another (or to a group of luminaires). All parameter settings, including any timing values, can be copied - as permitted by any filter settings at the touch screen. Cue data, however, will not be copied.

The luminaire from which data is being copied is referred to as the “source” luminaire. The luminaires receiving the data are referred to as “target” luminaires. The target luminaires will immediately conform to the selected parameter data (including spin properties) of the source luminaire. If the source luminaire does not have data stored for a particular parameter or the parameter has been filtered from the operation, then the target luminaires will not change their current settings for those parameters. Once the target luminaires have conformed to the new parameter data, you may store a new cue or continue to manipulate the luminaires via manual control and then store a cue.

How Data is Derived from Presets

If the source luminaire contains data provided by a Preset, then the system uses a hierarchy to determine how to translate this data to the target luminaire. The system will first look for a matching Preset number. For example, if the source contains data from Preset 2, then the new luminaire will look for Preset 2. If no matching Preset is found, then it will look for a matching Select. If no Select is found, then the new luminaire will conform to the parameter(s) by utilizing absolute data.

Copy a channel:

Step 1. Select target channel(s).

Step 2. At touch screen, set filters.

Step 3. At keypad, press [Recall] [Chan] [n] - where n is the number of the channel you wish to copy.

Copy/Move

The Copy/Move feature allows manipulation of group, beam, color, macro, snapshot, effect, sequence, set, preset, and cue data. For example, the data content of Cue 1 could be copied to Cue 2 using this feature. In this case, Cue 1 and Cue 2 are now identical. When data is moved, for example from Cue 1 to Cue 2, the content of Cue 1 is moved to Cue 2 and there will no longer be a Cue 1 in the cue list.

Pressing the [Copy/Move] button once activates the *copy* feature, while double-clicking the button activates the *move* feature.

Copy a cue to a new number:

- At keypad, press [Copy/Move] [Cue] [1] [At] [201] [Enter] - copies Cue 1 data to Cue 201.

Copy a range of cues to a new number range:

- At keypad, press [Copy/Move] [Cue] [1] [Thru] [5] [At] [201] [Enter] - copies Cues 1-5 to Cues 201-205.

Move a cue to a new number:

- At keypad, press [Copy/Move] [Copy/Move] [Cue] [1] [At] [201] [Enter] - moves Cue 1 data to Cue 201 (Cue 1 is now blank).

Move a range of cues to a new number range:

- At keypad, press [Copy/Move] [Copy/Move] [Cue] [1] [Thru] [5] [At] [201] [Enter] - moves Cues 1-5 to Cues 201-205 (Cues 1-5 are now blank).

Note: Group, Beam, Color, Macro, Snapshot, Effect, Sequence, Set, or Preset can be substituted for Cue in the above examples.

Note: For a range of cues greater than 10, a confirmation dialogue window will be displayed.

Copy Data

The Copy Data feature allows you to copy all the data from one channel to another, or to multiple channels. This is useful if additional luminaires are added to an existing lighting rig. When copying to multiple channels, the data will only be copied to luminaires of the same type as the source, leaving others unchanged.

CAUTION: There is no Undo for this action, so it is recommended that a backup of the show file is made for archive purposes.

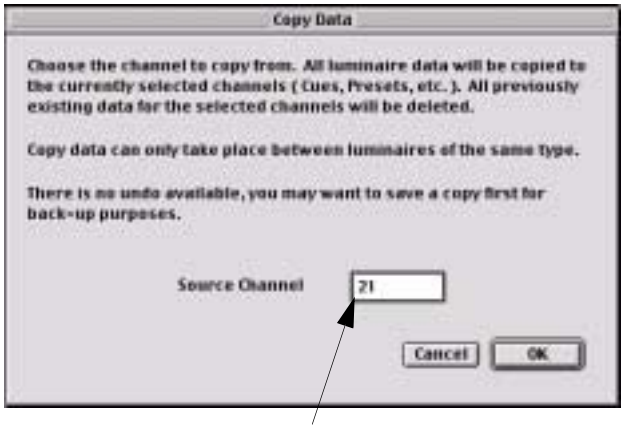
To copy data:

Step 1. Select control channel(s) of luminaire(s) to receive data.

Step 2. At Data menu, select Copy Data.

Note: Only one copy data action can be done at a time, from a single source.

Step 3. A dialog window will open that allows selection of a source channel number. Click OK.


Copy Data
Choose the channel to copy from. All luminaire data will be copied to the currently selected channels (Cues, Presets, etc.). All previously existing data for the selected channels will be deleted.
Copy data can only take place between luminaires of the same type.
There is no undo available, you may want to save a copy first for back-up purposes.
Source Channel
21
Cancel
OK

Enter source channel to copy data *from*.

Step 4. A warning dialog window will open, warning that previous existing data (if any) in the destination channels will be deleted. If this is the desired action, click Copy.

Function Keys

Setting Function Key Option

Selected keys from the Virtuoso command-line keypad are mapped to the computer keyboard's function keys [F1]-[F12]. Pressing these will open a window which takes the place of command-line functions such as Store, Selective Store, Delete, At, etc.

Note: Computer keyboard "quick keys" are available for use in these windows. Refer to "Quick Keys" on page 185 for instructions.

Using Function Keys

Store - F1

Step 1. Using windows, set parameters for cue, preset, beam, color, group, snapshot, macro, or board cue.

Step 2. Press [F1]. (Store window will open.)

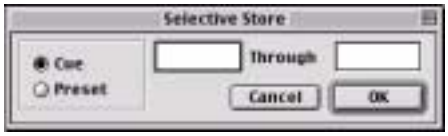
Step 3. Select item to store.

Step 4. Enter number for future recall.

Step 5. Click OK.

- Plus is used with cue store operations. Selecting Plus and clicking OK will store cue to next cue number according to increment shown in Encoder window. Refer to "Encoders Window" on page 65.

Selective Store - F2



Step 1. Using windows, set parameters you wish to modify or add in a cue or preset.

Step 2. Press [F2]. (Selective Store window will open.)

Step 3. Select Cue or Preset.

Step 4. Enter range of cues or presets.

Step 5. Click OK.

Update - F3

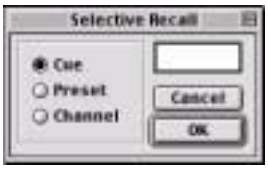
Step 1. Using windows, modify required channels.

Step 2. Press [F3]. (Update window will open.)

Step 3. Select item for update.

Step 4. Enter number of item where you wish to store modified channels.

Selective Recall - F4



Step 1. At Panels menu, select Timing Display. (Timing window will open.)

Step 2. Select Filter tab.

Step 3. Select parameters to be recalled.

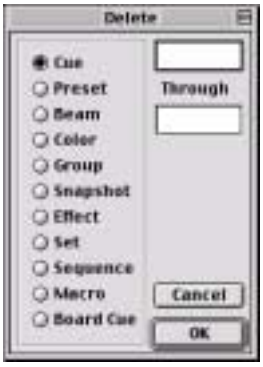
Step 4. Press [F4]. (Selective Recall window will open.)

Step 5. Select item from which data will be recalled.

Step 6. Enter number of cue, preset, or channel.

Step 7. Click OK.

Delete - F5



Step 1. Press [F5].

Step 2. Select item to delete.

Step 3. Enter number of item.

Step 4. Click OK.

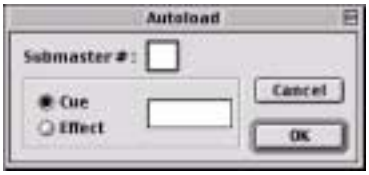
Autoload - F6

Step 1. Press [F6].

Step 2. Enter number of submaster for autoloading.

Step 3. Select Cue or Effect.

Step 4. Click OK.



At - F7

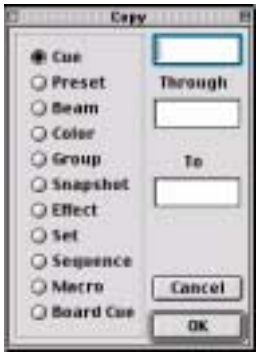
Step 1. Select desired channel(s).

Step 2. Press [F7].

Step 3. Select Full or Value. Enter value (1-100%).

Step 4. Click OK.

Copy/Move - F8



Step 1. Press [F8].

Step 2. Press [F8] again to toggle between Copy and Move windows.

Step 3. At desired window, enter cue numbers for copy/move operation.

Step 4. Click OK.

Sneak - F9

Step 1. Press [F9].

Step 2. Select parameter for sneak operation.

Step 3. Enter parameter value.

Step 4. Click OK.

Select - F10

Step 1. Press [F10].

Step 2. Select item.

Step 3. Enter item number.

Step 4. Click OK.

Time - F11

Step 1. Select a parameter(s).

Step 2. Press [F11].

Step 3. Select Time, Speed, or Delay.

Step 4. Enter value.

Step 5. Click OK.

Undo - F12

Step 1. Press [F12].

Step 2. Click OK to undo last action.

Quick Keys

The following computer keyboard "quick keys" can be used as shortcuts to select options in the function windows (F1-F12). For example, while in the Time window, pressing [T] would select Time, [S] would select Speed, and [D] would select Delay.

B = Beam	M = Macro
C = Cue	O = Board Cue
D = Delay	P = Preset
E = Effect	Q = Sequence
F = Full	S = Snapshot or Speed
G = Group	T = Time or Set
H = Channel	U = Cue with Preset
K = Color	V = Value or VL Color

+= and + = Plus

The following "quick keys" can be used with the 3D Graphic window to adjust the camera angle:

4, 6 = left, right direction (also arrow keys)

8, 2 = up, down (also arrow keys)

7, 9 = zoom in, zoom out (also +=, -_)

The following "quick keys" can be used with the Select Displays window:

OPTION enables the Store function.

(Hold OPTION and click in cell to store a select.)

⌘ enables the Label function.

(Hold ⌘ and click in cell to label a select.)

Notes

CHAPTER 11.

Snapshots, Macros, and Board Cues

This chapter provides instructions for storing your own console setups and frequently used programming actions, and for orchestrating submaster playback functions with board cues.

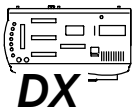
- **Snapshots**
- **Macros**
- **Board Cues**

Snapshots

Overview

A snapshot is a captured state on the console which can be recalled at any time in the future. States such as Channel Select panel selections, touch screen status, submaster setups, and windows layouts can be captured as a snapshot. Snapshots can be recalled via manual selection of the associated snapshot number or by automated activation through the cue sheet via link instructions. Snapshots may also be included in macros.

The Snapshot Filter window allows you to select those areas of the console you wish to include in a snapshot store operation. Once this window is setup, it only needs to be changed if you are going to store a snapshot which requires a different setup.



The Snapshot window displays a Virtuoso console, however, the sections of the console and associated snapshot work for either the Virtuoso or Virtuoso DX consoles. For the Virtuoso DX console, the console sections are still relevant to the console control. For example, Effects will still select the settings made at the Effect select display.

Control areas that may be included in a snapshot are (as seen in the console graphic):

- Channel Select panel - stores the page and current selected channels. When the snapshot is recalled, it is displayed at the Channel Select window and Channel Select panel if applicable.
- Manual Control panel - stores the current encoder status and Select Display configuration including bank and page selection, as well as, active states such as QuickFocus and Manual Timing.
- Playback panel - stores the keyboard display setup, and mode status and selections with the Touch Screen.
- Submaster states - stores the current state of any or all submasters. This includes active submaster banks (1-10, 11-20, 21-30) made at the Submasters drop-down section. The submaster control, settings, function filters, rates, operating modes, the active and pending cues, etc. are all saved as part of the snapshot.
- Effects panel - stores the state of the effects control buttons and the state of the Select Displays in effect mode.
- Monitor 1 - stores the windows layout on monitor 1.
- Monitor 2 - stores the windows layout on optional monitor 2.
- Monitor 3 - stores the windows layout on optional monitor 3.
- Monitor 4 - stores the windows layout on optional monitor 4.

Storing Snapshots

Snapshots are stored in the Snapshots select banks and can be accessed on any of the select displays just as Presets, Colors, Beams, Groups, Macros, and Effects or from the keypad. For instructions on using the select displays, refer to the "Select Displays" chapter on page 75.

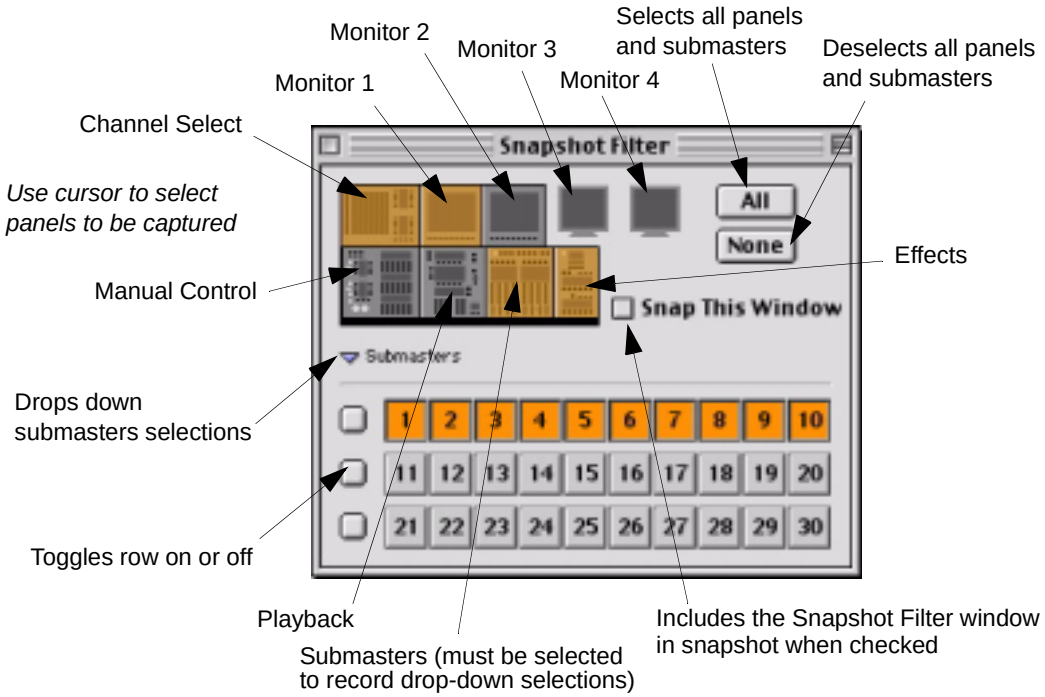
Store a snapshot using window and keypad:

Step 1. Configure console as required.

Step 2. At Operation menu, select Snapshot Filter. Snapshot Filter window will open.

Step 3. At window, select area to be snapshot and/or click on arrow to drop down submasters window and select any required submasters to be snapshot.

Step 4. Press [Store] [Snap Shot] [n] [Enter]. The portions of the console indicated in the snapshot window will be stored in the target snapshot.


Monitor 2
Monitor 3
Selects all panels and submasters
Deselects all panels and submasters
Monitor 1
Monitor 4
Channel Select
Use cursor to select panels to be captured
Snapshot Filter
All
None
Effects
Manual Control
Snap This Window
Submasters
Drops down submasters selections
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
Toggles row on or off
Playback
Submasters (must be selected to record drop-down selections)
Includes the Snapshot Filter window in snapshot when checked

DX

Note: For the Virtuoso DX console, the console sections are still relevant to the console control. For example, Effects will still select the settings made at the Effect select display.

Store a snapshot using select display:

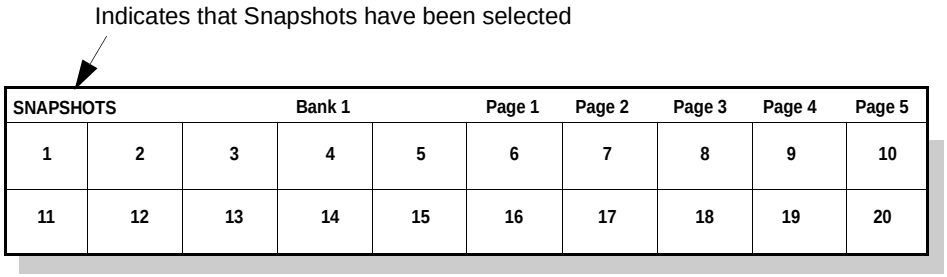
Step 1. Configure console as required.

Step 2. At Operation menu, select Snapshot Filter. Snapshot Filter window will open.

Step 3. At window, select area to be snapshot and/or click on arrow to drop down submasters window and select any required submasters to be snapshot.

Step 4. At a manual control select display, press [Bank/Function] / [Snaps].

Step 5. Press [Store] [Snapshot Select Button].



Label a snapshot:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] [Snap Shot] [n] [xxxxxx] [return], *or*
- [Label] [Snapshot Select Button] [xxxxxx] [return].

Link snapshot to a cue using shortcut method:

A shortcut for linking a snapshot to a cue is available. In this case, the current desk settings are stored into the snapshot according to the filters currently enabled in the Snapshot Filter window and automatically linked to the cue. The snapshot stored using this method is given a snapshot number of 200 above. The number is chosen by the console and cannot be accessed in the Snapshot Data window.

Step 1. At Snapshot Filter widow, ensure required areas of the console to be snapshot are enabled.

Step 2. Configure console as required.

Step 3. Press [Cue] [n] [Link] [Snap Shot] [Snap Shot]. Snapshot will be stored as a number above 200 and linked to the cue.

Note: Each snapshot created this way will be unique to that cue. Commonly used snapshots should first be created and then linked to a cue using the Link command.

Deleting Snapshots

A snapshot can be deleted using the keypad Delete function.

Delete snapshot(s):

- [Delete] [Snapshot] [n] [Enter], *or*
- [Delete] / [Snapshot Select Button].

Recalling Snapshots

When a snapshot is recalled, any cues that were in active playback will be recalled in their stored times. Any cues that were in pending will be placed in the appropriate pending files.

Recall snapshot using select display:

Step 1. At a manual control select display, press [Bank/Function] / [Snaps].

Step 2. Press [Snapshot Select Button].

Recall snapshot using command-line keypad:

- Press [Snapshot] [n] [Enter] (where n is the discrete snapshot number).

Recall snapshot via link:

- <Cue> [n] [Link] [Snap Shot] [x] [Enter] - links Snapshot x to Cue n.
- [Board Cue] [n] [Link] [Snap Shot] [x] [Enter] - links Snapshot x to Board Cue n.

Recall a snapshot via a macro:

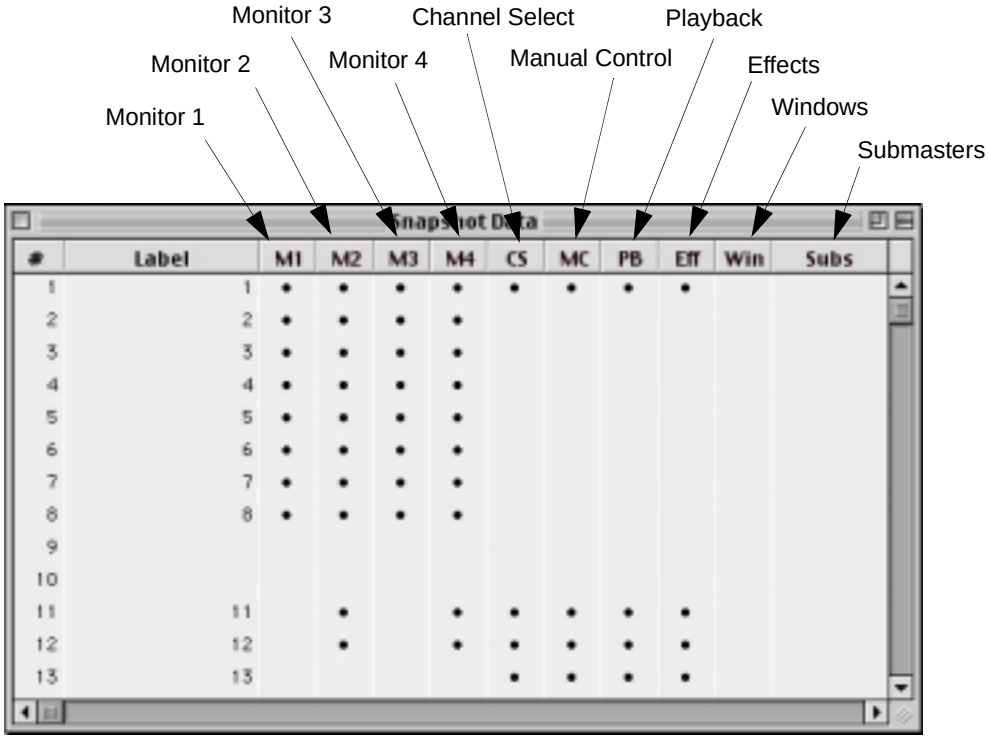
- While recording a macro, recall a snapshot. When the macro is played back, the snapshot will be recalled. (Refer to "Macros" on page 193.)

Snapshot Data

Snapshot data can be viewed in the Snapshot Data window.

Open Snapshot Data window:

- At Data menu, select Snapshots.
- Dots indicate which panels are stored in each snapshot.



Macros

Overview

A macro is a series of console events (button presses or display selections) that has been recorded and stored by number. The sequence entered during a macro record operation will automatically be played back when the macro is recalled. Playback can be initiated by manual selection of the associated macro number or automated via cue sheet link instructions. Macros can speed up programming by providing a way to easily execute repetitive or complicated commands, or be used to automate playback sequences.

The time between events is always recorded and stored within the macro. The macro can be played back using this timing information or played back without so that events execute immediately "one after the other" instead of in real time. (The Timing feature can be turned on and off at the Macros window.)

Macros are stored in the Macro select banks and can be accessed on any of the select displays just as Presets, Colors, Beams, Groups, Snapshots, and Effects. For instructions on using the select displays, refer to the “Select Displays” chapter on page 75.

Recording Macros

Using Record Button

The quickest method for recording macros, utilizes the select display and command-line keypad [Store] button.

When [Macro Rec] is pressed, the button will flash indicating that the recording function is enabled. Pressing a second time will disable the record function in the event you need to abort the action.

Record a macro:

Step 1. At a manual control select display, press [Bank/Function] / [Macro].

Step 2. Press [Macro Rec]. Button will flash.

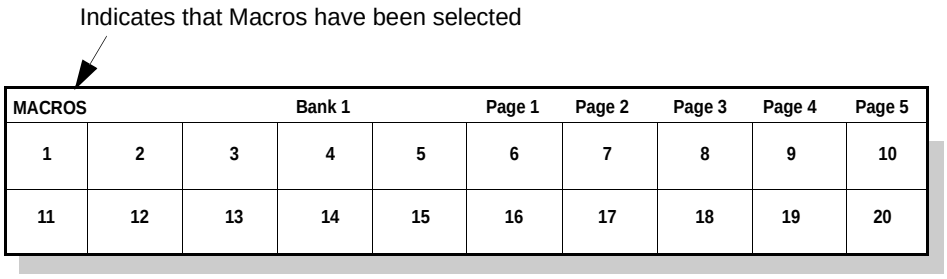
Step 3. Enter sequence of button presses, display selections, or command-line entries.

Step 4. Press [Store] / [Macro Select Button]. [Macro Rec] button will stop flashing.

Label a macro:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] / [Macro Select Button] [xxxxxx] [return].



From Keypad

The macro record function can be initiated from the keypad. Timing can be specified using command-line entry.

When [Enter] is pressed, the [Macro Rec] button will flash indicating that the recording function is enabled. Pressing [Macro Rec] after this will disable the record function in the event you need to abort the action.

Record a macro:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Press [Store] [Macro] [Enter].

Step 2. Enter sequence of button presses, display selections, or command-line entries.

Step 3. Press [Store] [Macro] [n] [Enter] *or* [Store] [Macro] [n] [Label] [Enter] [xxxxxx] [return] - where n is the number of the macro select where you wish to store the recorded sequence.

Record a macro for timed playback:

Step 1. Press [Store] [Macro] [Enter].

Step 2. Enter sequence of button presses, display selections, or command-line entries.

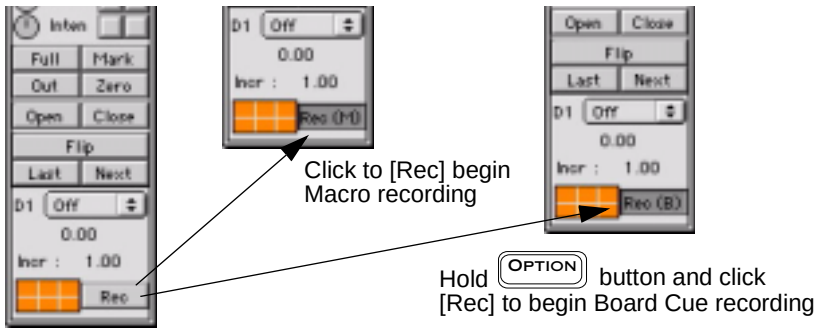
Step 3. Press [Store] [Macro] [n] [Time] [Enter] - where n is the number of the macro select where you wish to store the recorded sequence.

Specify timing for a previously recorded macro:

- [Macro] [n] [Time] [Enter] - where n is the discrete macro number.

From Encoders Window

Macro (or board cue) recording can also be initiated from the Encoders window. Use [Rec] button to begin a macro record operation as follows:

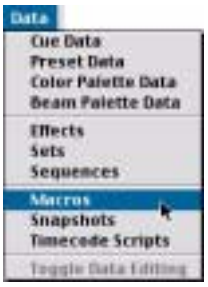


Macros Data Window

The Macros window can be used to view macro information and to edit macro timing.

The macro Delete, Replace, Punch In, and Insert features allow macro editing so that an entire macro does not have to be re-recorded in order to make a change.

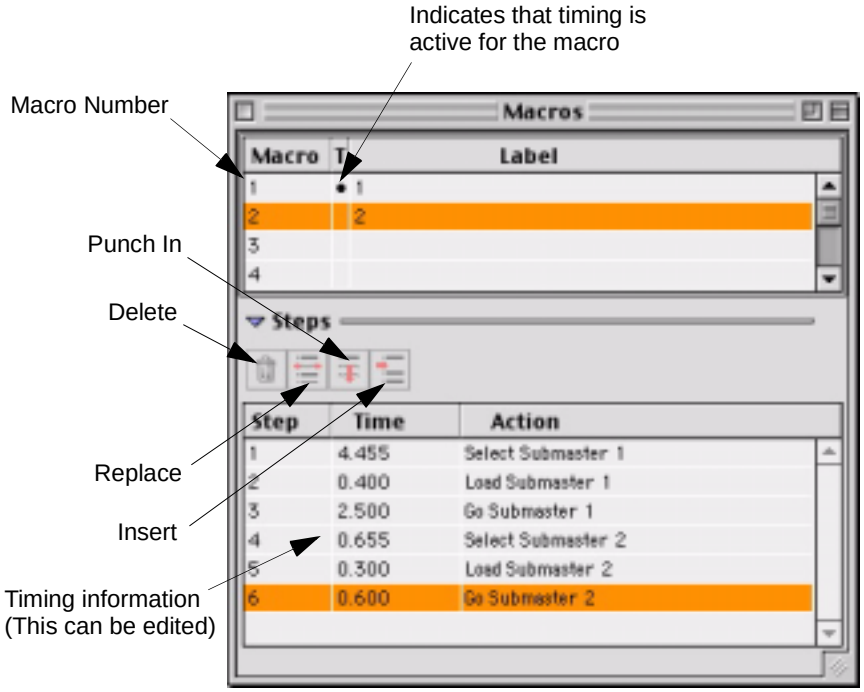
Access Macros window:



Step 1. At Data menu, select Macros. Macros window will open.

Step 2. If timing is desired, click in "T" column. A dot will appear in column indicating that real timing will be used when playing back macro. (Timing can be turned off at a later time by clicking in the "T" column again.)

Step 3. If required, click arrow at left of Steps to open Steps drop-down window. Edit times as required.



Delete a step:

Step 1. Using trackpad, select step(s) to be deleted.

Step 2. Click on "trash can" icon. Step(s) will be removed.

Replace a step:

Step 1. Using trackpad, select step to be replaced.

Step 2. Click "replace" icon. (Console [Macro Rec] button will begin flashing.)

Step 3. At desk, perform replacement action. (The first action taken will replace the selected step and editing will end.)

Replace all steps from Step X on (through remainder of macro):

Step 1. Using trackpad, select last "good" step. (Steps after this selection will be replaced.)

Step 2. Click "punch in" icon. (Console [Macro Rec] button will begin flashing.)

Step 3. At desk, perform new series of actions.

Note: Macro can be updated or re-stored as a new number.

Step 4. To store back into original number:
Press [Update] [Macro] [Enter].

To store into new number:
Press [Store] [Macro] [n] [Enter] *or* [Store] [Macro Rec] [n] [Label] [Enter] [xxxxxx] [return].

Insert new step(s):

Step 1. Using trackpad, select step prior to where you wish to insert new step.

Step 2. Click "insert" icon. (Console [Macro] button will begin flashing.)

Step 3. At desk, perform new action(s).

Step 4. To store back into original number:
Press [Update] [Macro] [Enter].

To store into new number:
Press [Store] [Macro] [n] [Enter] *or* [Store] [Macro] [n] [Label] [Enter] [xxxxxx] [return].

Recalling Macros

Macros can be recalled at any select display, at the Macro window, or by playing back the linked cue.

Recall macro using select display:

Step 1. At a manual control select display, press [Bank/Function] / [Macro].

Step 2. Press [Macro Select Button].

Recall macro using command-line keypad:

- Press [Macro] [n] [Enter] (where n is the discrete macro number).
- Press [Macro] [Time] [n] [Enter] (where n is the discrete macro number) - recalls macro using time.

Recall macro via link:

- [Cue] [n] [Link] [Macro] [x] [Enter] - links Macro x to Cue n.
- [Board Cue] [n] [Link] [Macro] [x] [Enter] - links Macro x to Board Cue n.

Board Cues

Overview

The board cue feature provides a method to record events on the console and play them back on command. Board cues are similar to macros, but are used primarily for recording playback operations in order to simplify complex cueing sequences for both spontaneous and “scripted” shows. The board cue feature allows recording of all types of playback operations, including submaster loading, executing Go commands, invoking filter states, pressing stop buttons, etc. It also allows simultaneous playback on multiple submasters for the purpose of automating or scripting a complete show. However, board cues will not record any previously established submaster modes that may be in effect when the board cue is recorded.

Board cues, like standard cues, are stored as numbers which can be randomly accessed for modification or playback at any time. The console can store up to 1,000 board cues, numbered from .01 to 999.99. Board cues can also be given alpha-numeric labels for identification.

The time between board cues is always recorded and stored within the board cue. The board cue can be played back using this timing information or played back without so that cues execute immediately "one after the other" instead of in real time. (The Timing feature can be turned on and off at the Board Cues window.) You can also loop board cues to play back the event over and over, either for a specified number of times or until it is manually stopped.

Several methods can be used to control board cue playback, including MIDI timecode, MIDI notes, and manual control.

Recording Board Cues

Using Record Button

The quickest method for recording board cues, utilizes the [Bd Cue Rec] button (Virtuoso DX) or [Macro Rec] button (Virtuoso) and command-line keypad [Store] button. The button will flash indicating that the recording function is enabled. (In the case of Virtuoso consoles, the [Macro Rec] button flashes slower during a Board Cue record than during a Macro record.) Pressing a second time will disable the record function in the event you need to abort the action.

Record a board cue using record button:

Step 1. *For Virtuoso DX console*, press [Bd Cue Rec]. Button will flash.

For Virtuoso console, double-click [Macro Rec]. Button will flash (slower than during a Macro record).

Step 2. Enter sequence of playback actions as required.

Step 3. Press [Store] [Board Cue] [n] [Enter] *or* [Store] [Board Cue] [n] [Label] [Enter] [xxxxxx] [return] - where n is a discrete board cue number. (Board Cue [Go] button will light.)

Step 4. [Bd Cue Rec] button will stop flashing.

From Keypad

The board cue record function can be initiated from the command-line keypad. Board cue timing can also be specified at the keypad.

When [Enter] is pressed, the [Bd Cue Rec] button (Virtuoso DX) or [Macro Rec] button (Virtuoso console) will flash indicating that the record function is enabled. Pressing the [Bd Cue Rec] or [Macro Rec] button after this will disable the record function in the event you need to abort the action.

Note: Command-line shortcuts can be used when storing board cues just as with standard cues. Refer to "Command-Line Shortcuts" on page 213.

Record a board cue:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

Step 1. Press [Store] [Board Cue] [Enter].

Step 2. Enter sequence of playback actions as required.

Step 3. Press [Store] [Board Cue] [n] [Enter] *or* [Store] [Board Cue] [n] [Label] [Enter] [xxxxxx] [return] - where n is a discrete board cue number. (Board Cue [Go] button will light.)

Record a board cue with a linked attribute:

Board cues can be linked to other board cues, macros, or snapshots.

Step 1. Press [Store] [Board Cue] [Enter].

Step 2. Enter sequence of playback actions as required.

Step 3. Press [Store] [Board Cue] [m] [Link] [Board Cue]* [n] [Enter] - where m and n are discrete board cue numbers.

* Substitute [Macro] or [Snap Shot] in place of [Board Cue] as required.

Record a board cue with a wait time:

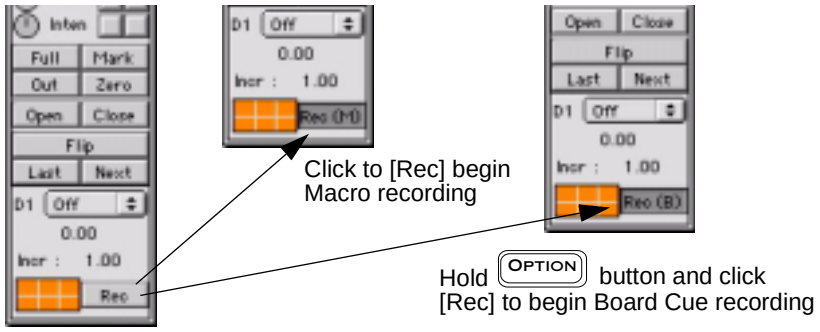
Step 1. Press [Store] [Board Cue] [Enter].

Step 2. Enter sequence of playback actions as required.

Step 3. Press [Store] [Board Cue] [n] [Wait] [x] [Enter] - where n is a discrete board cue number. (Board Cue [Go] button will light.)

From Encoders Window

Board cue (or macro) recording can also be initiated from the Encoders window. Use [Rec] button to begin a board cue record operation as follows:



Deleting Board Cues

Delete a board cue or a range of board cues:

- [Delete] [Board Cue] [n] [Enter] - deletes the entire board cue.
- [Delete] [Board Cue] [n] [Thru] [q] [Enter] - deletes a range of board cues.

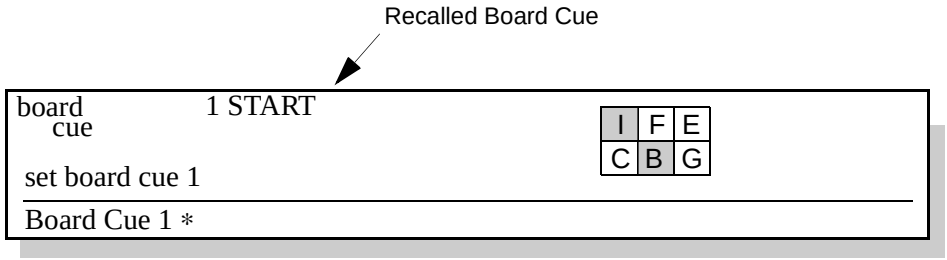
Recalling Board Cues

Board cues can be recalled and played back using the command-line keypad and Board Control [Go]. When a board cue is recalled, the [Go] button at the submasters panel will start flashing. Pressing [Go] will play back the board cue and any linked events. Pressing [Stop/Back] will pause the board cue autofollow time (not execution) until [Go] is pressed again wherein it will resume autofollow from the point at which it was stopped.

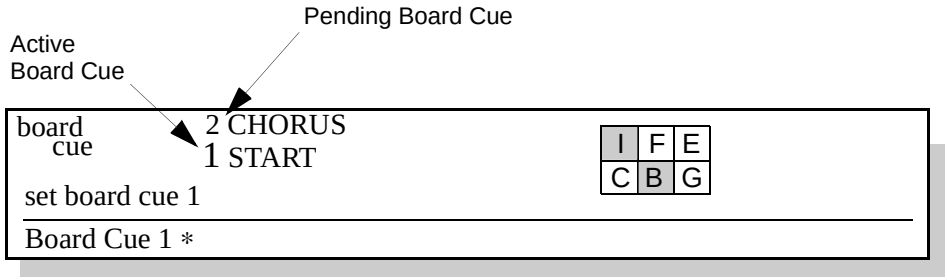
Note: [Go] button will only flash while an autofollow is in process.

Play back a board cue:

Step 1. At keypad, press [Board Cue] [n] - where n is the discrete board cue number. (Board cue [Go] button will light.)



Step 2. At submasters panel, press Board Cue [Go] to initiate playback.



Clear Board Cue indicators from display:

- Recall a non-existent board cue. For example, [Board Cue] [0] [Enter] will clear display of any board cue information as long as Board Cue 0 is not a valid board cue.

Board Cues Window

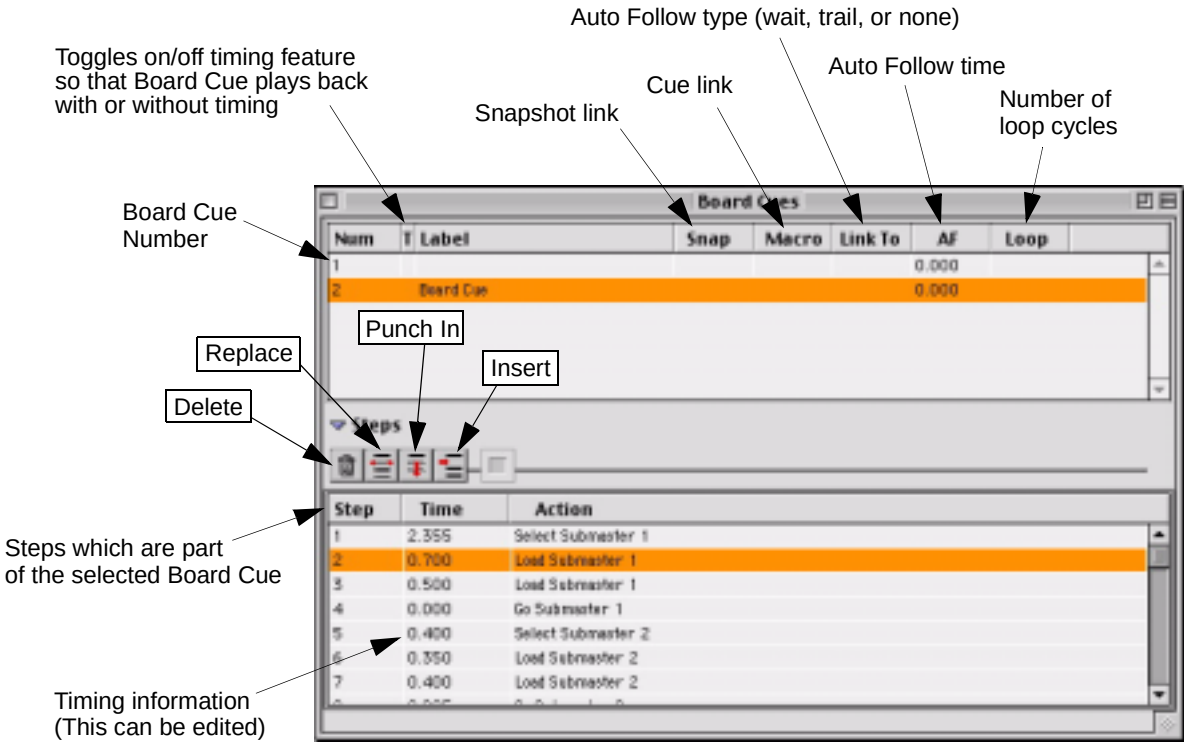
The content of board cues can be viewed in the Board Cues window. This window displays all recorded board cues in numerical sequence and provides data regarding linked events which would run during playback. Link attributes such as loops and autofollow types (wait and trail) are visible as well as the associated times (refer to "Special Cue Attributes" on page 206). Unless links are provided, which will run cues out of sequence, any playback sequences will observe the numerical order found in the sheet.

The Delete, Replace, Punch In, and Insert features allow editing so that an entire board cue does not have to be re-recorded in order to make a change. The Time column may also be edited.

Access Board Cue Sheet:

Step 1. At Operation menu, select Board Cue Sheet. Board Cue Sheet window will open.

Step 2. If timing is desired, click in "T" column. A dot will appear in column indicating that real timing will be used when playing back board cue. (Timing can be turned off at a later time by clicking in the "T" column again.)



Delete a step:

Step 1. Using trackpad, select step(s) to be deleted.

Step 2. Click on "trash can" icon. Step(s) will be removed.

Replace a step:

Step 1. Using trackpad, select step to be replaced.

Step 2. Click "replace" icon. The following will occur:

For Virtuoso DX console, [Bd Cue Rec] button will start to flash.

For Virtuoso console, [Macro Rec] button will start to flash (slower than during a Macro record).

Step 3. At desk, perform replacement action. (The first action taken will replace the selected step and editing will end.)

Replace all steps from Step X on (through remainder of Board Cue):

Step 1. Using trackpad, select last "good" step. (Steps after this selection will be replaced.)

Step 2. Click "punch in" icon. [Board Cue] button will begin flashing.

Step 3. At desk, perform new series of actions.

Note: Board Cue can be updated or re-stored as a new number.

Step 4. To store back into original number:
Press [Update] [Board Cue] [Enter].

To store into new number:
Press [Store] [Board Cue] [n] [Enter] *or* [Store] [Board Cue] [n] [Label] [Enter] [xxxxxx] [return].

Insert new step(s):

Step 1. Using trackpad, select step prior to where you wish to insert new step.

Step 2. Click "insert" icon. The following will occur:

For Virtuoso DX console, [Bd Cue Rec] button will start to flash.

For Virtuoso console, [Macro Rec] button will start to flash (slower than during a Macro record).

Step 3. At desk, perform new action(s) as follows:

To store back into original number, press [Update] [Board Cue] [Enter].

To store into new number, press [Store] [Board Cue] [n] [Enter] *or* [Store] [Board Cue] [n] [Label] [Enter] [xxxxxx] [return].

CHAPTER 12.

Advanced Cue Features

This chapter contains instructions for storing and modifying cues utilizing advanced console features. These instructions build on the basic store and playback instructions provided in the "Basic Cues" chapter on page 115.

- **Special Cue Attributes**
- **Advanced Cue Storing and Modifying**
- **Cue Windows**

Special Cue Attributes

Overview

In addition to parameter data, cues can contain the following special attributes:

- **Link**
- **Loop**
- **Auto Follow (AF) Type (Wait or Trail)**
- **Auto Follow (AF) Time**
- **Out Time**

Note: These special attributes can also be applied to board cues as required.

Guidelines:

- When a cue is stored, these cue attributes may be entered in any order.
- If a cue is defined as an effect cue, then crossfade instructions may *not* be included in the cue contents.
- The cue does not need to be active to change its data.
- These special attributes can also be applied to cue ranges.
- In all cases, these attributes may be defined using the command-line keypad or Cue/Board Cue Sheet window.

Link

Link instructions can be stored with a cue. Link instructions allow cues to be run out of sequence by causing a different cue number to be loaded into the submaster's pending file when the cue that carries the link instruction is activated. In addition, link instructions may also be provided to snapshots, macros, and effects. (In the case of a linked effect, special conditions apply. See 'To Effects' below.)

If a wait or trail time is included with the cue data, automatic activation of the linked cue, snapshot, macro, or effect will occur when the wait or trail time has elapsed.

Store a cue with a link to another cue:

- [Store] <Cue> [n] [Link] <Cue> [x] [Enter] - upon playback of Cue n, the "linked" cue (x) would be loaded into the same submaster for manual activation.

Link an existing cue to another cue:

- [Cue] [n] [Link] [x] [Enter] - links Cue n to Cue x.

Remove a link from a cue:

- [Cue] [n] [Link] [Enter] - removes the link instruction from Cue n.

Link a cue to a snapshot:

- [Cue] [n] [Link] [Snap Shot] [x] [Enter] - links Snapshot x to Cue n.

Link a cue to a macro:

- [Cue] [n] [Link] [Macro] [x] [Enter] - links Macro x to Cue n.

Shortcuts To link another cue to the currently selected cue, press [Link] [n] [Enter] - where n is the linked cue.

To link a snapshot, macro, or effect to the currently selected cue, press [Link] [Macro*] [n] [Enter] - where n is the number of the macro you wish to link.

* [Snap Shot] or [Effect] can be used instead of [Macro].

To Effects

A cue can either have data or recall an effect, but not both. When an effect is linked to a cue, the effect will be recalled when that cue number is played.

Link an effect to a cue:

- [Cue] [n] [Link] [Effect] [x] [Enter] - links Effect x to Cue n.

Loop

Loop instructions are used in combination with link instructions to replay a sequence multiple times.

When a cue with a link and loop instruction is played back, the linked cue will automatically be played back on the same submaster and then the original cue would be reloaded and the sequence would repeat as defined by the loop number. After the defined number of loops, the submaster will automatically load the next sequential cue into the submaster's pending file, activating the next cue based on autofollow for loop or sequential cue.

Tip Loops should be defined on the last cue of a sequence.

Store a cue with link and loop instructions:

- [Store] <Cue> [n] [Link] [m] [Loop] [x] [Enter] - links Cue n and Cue m with a loop of x times.

Add a loop to an existing linked cue:

- [Cue] [n] [Loop] [x] [Enter] - Cue n and its linked cue will loop x times.

Remove a loop instruction from a linked cue:

- [Cue] [n] [Loop] [Enter].

Shortcut To add a Loop instruction to the currently selected cue, press [Loop] [n] [Enter] - where n is the number of desired loops.

Wait/Trail Time

Wait or Trail time instructions may be stored into a cue to control the start of subsequent or linked events (refer to "Link" on page 207).

Wait is a timing attribute which causes the next event to be automatically executed after the wait time has elapsed. The wait time begins counting from the moment the cue is executed.

Trail is a timing attribute which causes the next event to be automatically executed after the trail time has elapsed. The trail time begins counting from the moment the cue has completed.

Guidelines:

- A cue can have either a Wait or a Trail instruction, but not both.
- If no linked event is specified (via a Link instruction), then the subsequent cue in the cue list will execute after the wait/trail time has elapsed.
- If a linked event is specified, the linked event will execute after the wait/trail time has elapsed.

Note: In the following examples, Trail could be used instead of Wait.

Store a cue with a wait/trail time:

- [Store] <Cue> [n] [Wait] [m] [Enter] - stores Cue n with a wait time of m.

Store a cue with a link and a wait/trail time:

- [Store] <Cue> [n] [Link] [x] [Wait] [m] [Enter] - stores Cue n and provides an out of sequence link to Cue x with a wait time of m.

Add a wait/trail time to an existing cue:

- [Cue] [n] [Wait] [x] [Enter] - adds a wait time of x for Cue n.

Add a wait/trail time to a range of cues:

- [Cue] [m] [Thru] [t] [Wait] [x] [Enter] - adds the specified wait time (x) to all of the cues in the specified cue range (m thru t).

Remove a wait/trail time from a cue:

- [Cue] [n] [Wait] [Enter] - removes the wait time from the specified Cue n.

Remove a wait/trail time and link from a cue:

- [Cue] [n] [Link] [Wait] [Enter] - removes both the wait and link instruction for the specified Cue n.

Remove a wait/trail time from a range of cues:

- [Cue] [n] [thru] [t] [Wait] [Enter] - removes the wait or trail time from the specified cue range (n thru t).

Shortcut To add a wait/trail time to the currently selected cue, press [Wait] [n] [Enter] - where n is the desired time.

* or [Trail].

Out Time

Out Time instructions may be stored into a cue. An Out Time will provide a "fade to no intensity level" instruction to any luminaires that are "going *inactive*" in a cue. Out Time also provides the time value that luminaires are to fade to *inactive* in the event the submaster is deselected.

The console has a setting for a default Out Time, which is stored into all new cues where a different time is not specified. The default setting is 3 seconds, but can be changed universally in the Settings window. Refer to "Settings Window" on page 258 to change the default Out Time.

Store a cue with an out time:

- [Store] <Cue> [n] [Out Time] [x] [Enter] - stores Cue n with an out time of x.

Add an out time to a range of cues:

- [Cue] [m] [Thru] [n] [Out Time] [x] [Enter] - adds an out time of x to the range of cues m through n.

Reset a cue's out time back to zero:

- [Cue] [n] [Out Time] [Enter].

Shortcut To add an out time to the currently selected cue, press [Out Time] [n] [Enter] - where n is the desired out time.

Advanced Cue Storing and Modifying

How Faders Affect Intensity

Previously, intensity states were discussed in relation to cue store operations (refer to "Intensity States" on page 117). In addition to these four intensity states, the Grand Master fader, Black Out feature, and submaster faders can affect playback intensity levels. When used in combination with the manual control intensity encoder, the Grand Master fader and any selected submaster faders all play a part in the final intensity output level by a proportional calculation.

Grand Master/Black Out

The console provides two methods for mastering overall intensity output: the Grand Master fader and its associated [Black Out] button. The Grand Master fader can be used to proportionally master the intensity output. The [Black Out] button, when engaged, sets all intensities to *zero*. However, neither the Grand Master nor [Black Out] button settings are stored into a cue/preset.

For example:

Cue Store Scenario (with all submasters deselected):

Selected channels have an intensity value of 100%.
Grand Master fader is set at 0%.
Channels are stored into the cue with an intensity value of 100%.

Submaster Faders

Submaster faders can affect the intensity output of selected luminaires prior to the Grand Master contribution, provided the submaster is currently selected. Calculation of the final intensity output when including submaster faders becomes more complex.

A way to visualize the impact of encoder/fader settings on intensity is to open the Luminaire Status window and view the resulting level changes as you move each fader. (As with the two examples given on the previous page, these instructions are intended to help show the relationship of intensity controls since it would be impossible to provide examples for all possible combinations.)

Step 1. At Operation menu, select Luminaire Status.

Step 2. Select luminaires.

Step 3. Using Intensity encoder or [Full] button, bring intensity levels to 100%.

Step 4. Select a submaster by pressing its [Select] button.

Step 5. Move Intensity encoder, submaster fader, and Grand Master fader in various combinations and view the intensity level changes in Luminaire Status window's Intensity column.

This will give you an idea of how these faders and encoders work together to calculate a final intensity level for the selected luminaires. This is important because cues/presets can be stored with intensity values.

Command-Line Shortcuts

The command-line feature has several built-in shortcut and convenience capabilities which can be used to speed up and simplify operations.

Shortcut Some shortcuts have been indicated so far throughout the manual with the graphic shown to the left of this text. These shortcuts, along with additional ones, are collected here.

Using [+] with [Store]

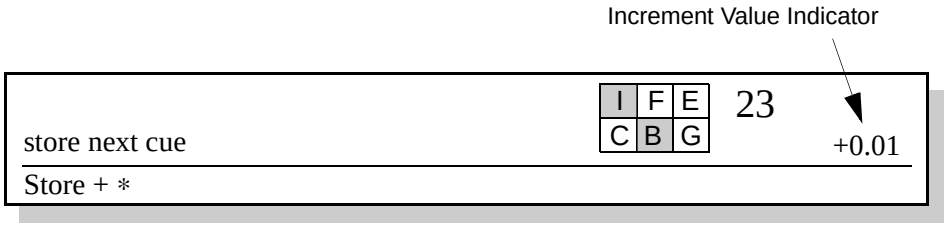
The [+] button can be used to increment the store target by a predetermined increment value (default = +1).

Using [+] with a +1 increment value:

- Pressing [Store] [1] [Enter] will store Cue 1. Pressing [Store] [+] [Enter] will store Cue 2. Pressing [Store] [+] [Enter] will store Cue 3, etc.

Using [+] with a +0.1 increment value:

- Pressing [Store] [1] [Enter] will store Cue 1. Pressing [Store] [+] [.1] [Enter] will store Cue 1.1. Pressing [Store] [+] [Enter] will store Cue 2.2, etc.



Note: The increment value is also displayed in the Encoders window. Refer to "Encoders Window" on page 65.

[Store] [Store]

This command-line entry can be substituted for the standard cue store entry.

- Press [n] [Store] [Store] to store Cue n.

Submaster Load

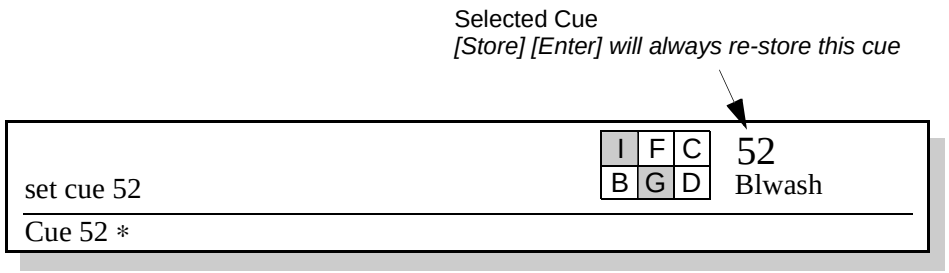
A cue specified at the keypad can be immediately loaded and played back in an empty submaster.

Step 1. At keypad press [cue number]. (Must be valid cue number.)

Step 2. At empty submaster press [Go] and then [Select].

Cue Store Target

Pressing [Store] [Enter] always defaults the store command to the last selected cue. (This cue is displayed in the command-line display.)



Additionally, when working with decimal cues, it is not necessary to re-enter the leading cue number.

For example:

- [Store] <Cue> [5] [Enter] = store Cue 5
- [Store] <Cue> [5] [.] [3] [Enter] = store Cue 5.3
- [Store] <Cue> [.] [7] [Enter] = store Cue 5.7

Cue Attribute Target

For the currently selected cue (see illustration above), attribute instructions can be applied without re-specifying the cue target. For example:

- To link another cue to the currently selected cue, press [Link] [n] [Enter] - where n is the linked cue.
- To link a snapshot, macro, or effect to the currently selected cue, press [Link] [Macro*] [n] [Enter] - where n is the number of the macro you wish to link.
  * [Snap Shot] or [Effect] can be used instead of [Macro].
- To add a wait/trail time, out time, or loop to the currently selected cue, press [Wait] [n] [Enter] - where n is desired time or number of loops.

  * also [Trail], [Out Time], or [Loop].

Miscellaneous Shortcuts

- Holding down [Clear] will clear an entire unterminated command line.
- Pressing [Next] / [Last] together will reselect the original channel range or group.

Creating Cue Numbers without Storing Data

It is possible to create and label cues without storing data. To do this is, store a cue while all luminaires are *inactive* or off-line.

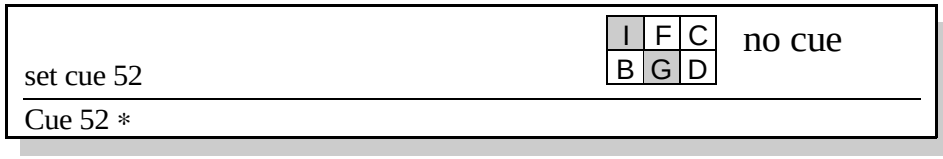
Locating Stored Cues

In order to verify if a certain cue number exists or to locate nearest stored cue numbers, a shortcut can be used.

Locate cue number:

At keypad, press [Cue] [n] [Enter] for cue number you wish to verify. One of two things will happen:

- If the cue exists, its number and label will be displayed in the command-line display.
- If a cue by that number does not exist, "no cue" will be displayed. At command-line display, press [+/▽] to move forward or press [-/△] to move backward. The next higher or lower cue numbers (nearest the cue number you entered) will appear in the display.



Update

The Update feature is used to store modified channels back into their source cues. When Update is used, any channels that had another cue as their source, and were modified, would not be added to the target cue.

Tip ⇨ Update is most useful when you know the exact range of cues to be modified.

Guidelines:

- Any rate modifications will affect the stored time values accordingly.
- Unexpected behavior can occur with updates involving intensity if the submaster and Grand Master faders are not at full. Refer to "Store, Update, and Selective Store with Submasters" on page 220.
- Update is intended for active cues only. To add sections of the live stage output to inactive cues, use the Selective Store command (refer to "Selective Store" on page 217).
- Any channel transferred to an independent submaster or parked in patch will not be updated. All other cue data remains as originally set.

Note: Unlike Selective Store, Update commands are not routed through the Channel Select panel and the filter settings.

Update a cue:

- [Update] <Cue> [n] [Enter] - updates Cue n with only those channels that were receiving their instructions from that cue.

Update multiple cues:

- [Update] [Enter] - updates all modified channels in their source cues. Any channels that had no source cue would not be stored.

Update a preset:

- [Update] [Preset] [Enter] - updates all modified channels in their source cues and preset(s). Any channels that had no source cue would not be stored.

Update a preset in a specific cue:

- [Update] [Cue] [n] [Preset] [Enter] - updates Cue n and its preset(s) with only those channels that were receiving their instructions from that cue.

Undo (reverse) an Update command:

- [Undo] [Enter] - reverses the last store/update/delete command.

Selective Store

The Selective Store feature is used to modify or add parameter data to a cue, preset, or beam state for specified channels (*active* or *inactive*). For example, with this function you could modify a cue's color parameters, while leaving all other parameter data intact for a particular cue or a range of cues.

Tip Selective Store is most useful when you know the exact range of cues to be modified.

Note: Unlike Update, Selective Store commands are routed through the Channel Select panel and the filter settings.

Selective Store new data for a particular parameter in a cue:

Step 1. Select required channels.

Step 2. At touch screen, modify a parameter(s) as required. For example, color.

Step 3. Press [Sel Store] <Cue> [n] [Enter]. The new color parameters will be stored in place of the old color parameters, but all other parameter data will remain the same.

Selective Store new data for a particular parameter in a range of cues:

Step 1. Select required channels.

Step 2. At touch screen, modify a parameter(s) as required. For example, color.

Step 3. Press [Sel Store] <Cue> [n] [Thru] [m] [Enter]. The new color parameters will be stored in place of the old color parameters, but all other parameter data will remain the same.

Note: As a caution when altering parameters for more than ten cues, a confirmation window will open.

Selective Store all selected channels into a cue:

Step 1. Select required channels.

Step 2. Using manual control, set parameters as required.

Step 3. At touch screen, set filters as required.

Step 4. Press [Sel Store] <Cue> [n] [Enter]. All selected channels are re-stored into the specified cue at current stage levels. Only those parameters allowed by the filter settings are affected.

Modify a preset using Selective Store:

Step 1. At touch screen display, modify filter settings as required.

Step 2. Select required channels.

Step 3. Press [Sel Store] / [Preset Select Button] *or* [Sel Store] [Preset] [n] [Enter] (where n is the discrete Preset number).

Undo (reverse) a Selective Store command:

- [Undo] [Enter] - reverses the last store/update/delete command.

Selective Recall

The Selective Recall feature is used to recall specific parameter data from specified channels (*active* or *inactive*) in a cue, preset, or beam state.

Guidelines:

- Selective Recall routes through the filter settings.
- If Timing is selected at the touch screen filter, then the parameter *and* all timing information will be recalled (making that the current state).
- If Timing is *not* selected at the touch screen filter, then only the parameter will be recalled.
- If Manual Timing is enabled (refer to "Manual Timing" on page 177), then the current time information in the luminaires will be recalled. (For example, if focus has a time of 10 seconds and color has a time of 5 seconds, then the luminaire will recall the parameters using those individual times.)

Note: The system assumes that data to be recalled is from a cue. As such, use of the <Cue> button is optional.

Recall stored cue data:

Step 1. At touch screen display, select Filter mode. Select parameters to be recalled.

Step 2. If timing is desired, press [Man Time]. Recalled parameters will change in the luminaire's current time settings.

Step 3. Select channel(s) as required.

Step 4. Press [Recall] <Cue> [m] [Enter]. All stored data will be recalled from the specified cue (m) for the selected luminaires, as dictated by the selections on the filters.

Recall stored preset data:

Step 1. At touch screen display, select Filter mode. Using touch screen, select parameters to be recalled.

Step 2. If timing is desired, press [Man Time]. Recalled parameters will change in the luminaire's current time settings.

Step 3. Select channel(s) as required.

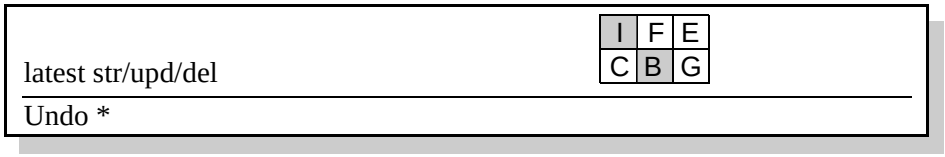
Step 4. Press [Recall] [Preset] [x] [Enter] *or* [Recall] [Preset Select Button]. All stored data will be recalled from the specified preset (x), as defined by the selections on the filters.

Undo a Delete Command

In addition to reversing Store and Update commands, the Undo feature can be used to reverse a Delete command.

Undo (reverse) a Delete command:

- [Undo] [Enter] - reverses the last store/update/delete command.



Modifying Cues in a Submaster

Cues can also be modified and re-stored while active in a submaster. The Store, Selective Store, and Update commands can be performed by using them in combination with the submaster's [Choose] button.

Guidelines:

- When modifying a cue in a submaster, the modified cue data is automatically loaded into the associated submaster. (Because the loaded cue is subject to altering by the fader setting, unexpected behavior can occur when that fader setting is less than full. See "Unexpected Behavior" below.)
- Only channels receiving instructions from the cue being modified will be changed.

Store, Update, and Selective Store with Submasters

After a cue has been loaded and played back in submaster, its channels can be modified and re-stored using standard cue store commands.

For more information, refer to "Update" on page 216 and "Selective Store" on page 217.

Modify a cue in a submaster:

Step 1. Run cue in submaster.

Step 2. Using manual control, modify parameters as required.

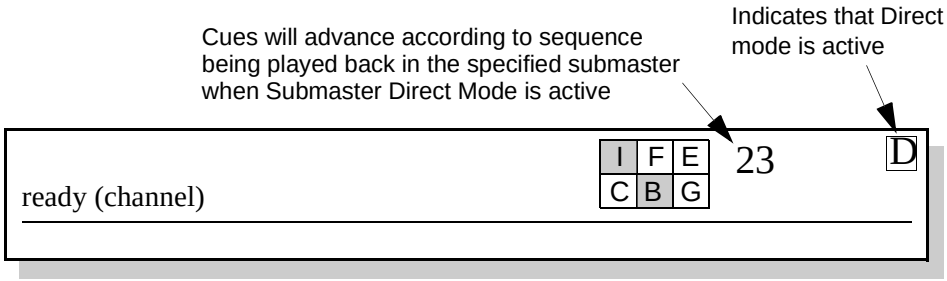
Step 3. Press [Update]* / [Choose].
* [Store] or [Sel Store] can be used instead of [Update].

Unexpected Behavior

When a cue is re-stored while active in a submaster, unexpected behavior can occur if any selected submaster's fader is set below full. This happens as a result of two factors. First, when the intensity is stored at a lower level as a result of a fader, then the updated cue is automatically loaded back into the submaster, it will immediately be affected (for the second time) by the fader setting causing a further reduction in intensity output. Second, if more than one submaster is selected, the Highest Takes Precedence (HTP) protocol must be considered. If a cue, active in the first submaster, is updated to an intensity level below that of the second submaster, then after the cue is automatically reloaded to the submaster, it will be overridden by the higher value of the second submaster (which now controls the intensity output as a result).

Submaster Direct Mode

To assist in updating or re-storing cues, it is possible to have the command-line display track the sequence of cues being executed in a submaster.


Cues will advance according to sequence being played back in the specified submaster when Submaster Direct Mode is active
Indicates that Direct mode is active
I F E
C B G
23
D
ready (channel)

There are two methods of initiating this mode:

- At keypad, press [Cue] along with [Choose] button at required submaster.
- Press [Cue] [Sub] [n] [Enter] - where n is the desired submaster number.

Once the mode has been activated, a “D” indicator will appear in the command-line display and any advances in the cue sequence at the submaster will automatically advance the current cue. If you wish to make changes to any cue, then that cue number is already in the display when you go to store the cue again (after making changes).

To exit the mode:

- Press the forward or backward advance buttons at the command-line display.

Cue Windows

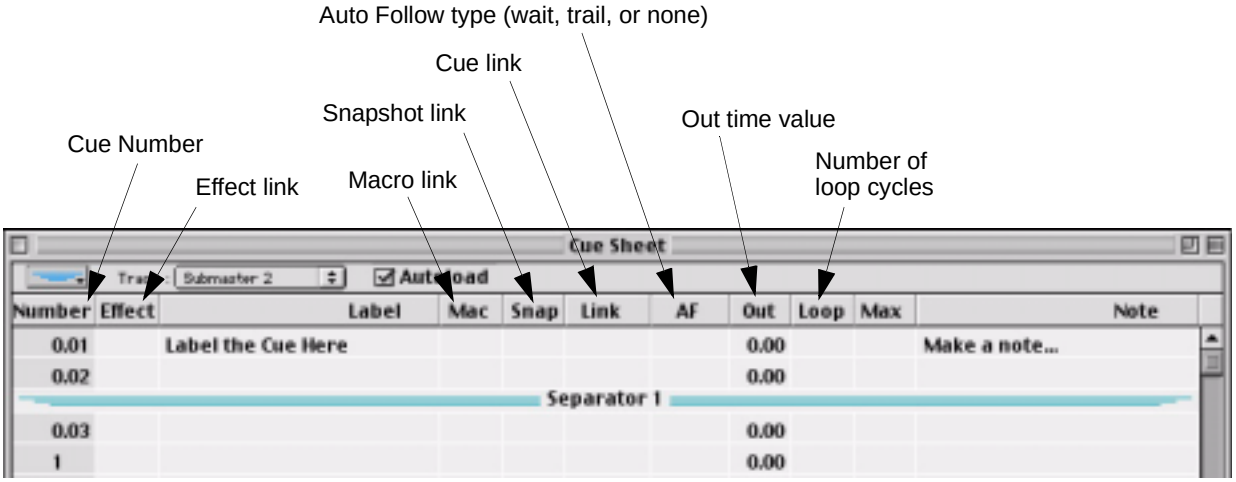
Cue Sheet

Cue sheet data can be viewed and edited in the Cue Sheet window. The cue sheet displays all recorded cues in numerical sequence and provides data regarding linked events which would run during playback. Link attributes such as loops, auto follow types (wait and trail), and out times are visible. Unless links are provided, which will run cues out of sequence, any playback sequences will observe the numerical order found in the cue sheet.

Access Cue Sheet:

Step 1. At Operation menu, select Cue Sheet. Cue Sheet window will open.

Step 2. Enter or edit data as required.



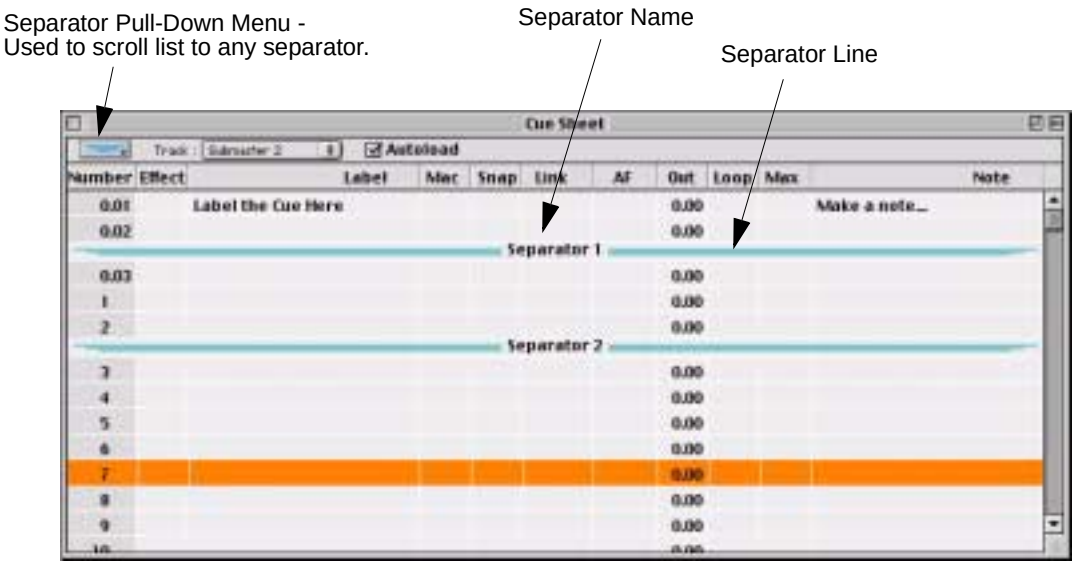
Forward/Backward Buttons

It is possible to move forward or backward through the cue list in the command-line display by pressing the advance buttons.

- At command-line display, press [▽] to move forward. Press [△] to move backward. Cue numbers shown in command-line display will respond accordingly.

Separators

Separators can be inserted into the Cue Sheet list in order to organize certain groups of cues as necessary. The separators can then be used as markers to quickly access the first cue of each group.



Insert a separator:

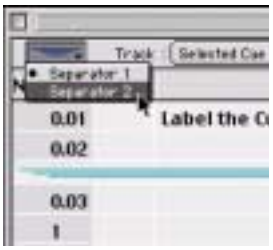
Step 1. At Cue Sheet, use cursor to select cue above where you wish to insert separator.

Step 2. At Cue Sheet menu (available when Cue Sheet window is open), select New Separator. A separator will be inserted.

Step 3. Using pull-out keyboard, type name of separator.

Step 4. Press [Enter].

Go to specified separator:



- At Cue Sheet window, select separator by name from pull-down menu. Cue Sheet will scroll to beginning of separator line.

  - or -

- At Cue Sheet menu, select separator by name. Cue sheet will scroll to beginning of separator line.

Renumbering Cues

The cue number field is editable.

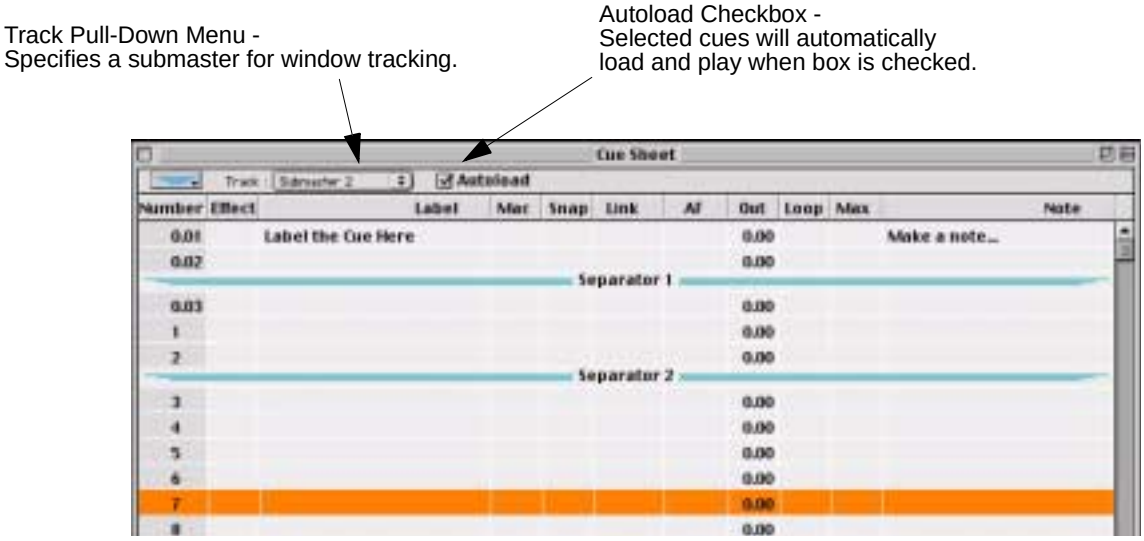
Note: The Move function also effectively renumbers cues. (Refer to "Copy/Move" on page 180).

Submasters Track Mode

The submaster Track mode, specifies which submaster the cue sheet will follow. The window selection will reflect the active cue in the submaster selected at the Track pull-down menu. When cues are loaded or advanced in that submaster, the Cue Sheet window will reflect the changes.

Submasters Autoload

When the Autoload box is checked in the Cue Sheet window, any selected cue will automatically load and play in the submaster specified in the Track pull-down menu.



Submaster Stop/Step

A running cue can be stopped using the [Stop/Step] button.

Step 1. Press [Stop/Step] to stop a running autofollow.

Step 2. Press [Run] to resume playback with autofollows.

Snap Shot Indicator

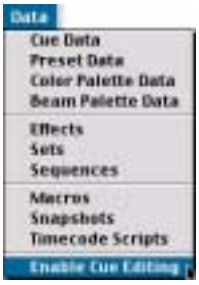
Cues eligible for a cue snap shot will be noted with "-".

Cue Data

Cue parameter data can be viewed and edited in the Cue Data window. This window displays each stored cue one at a time with its parameter values in a user definable format.

Note: Cue data can only be edited if Patch editing is disabled.

View/Edit Cue Data:



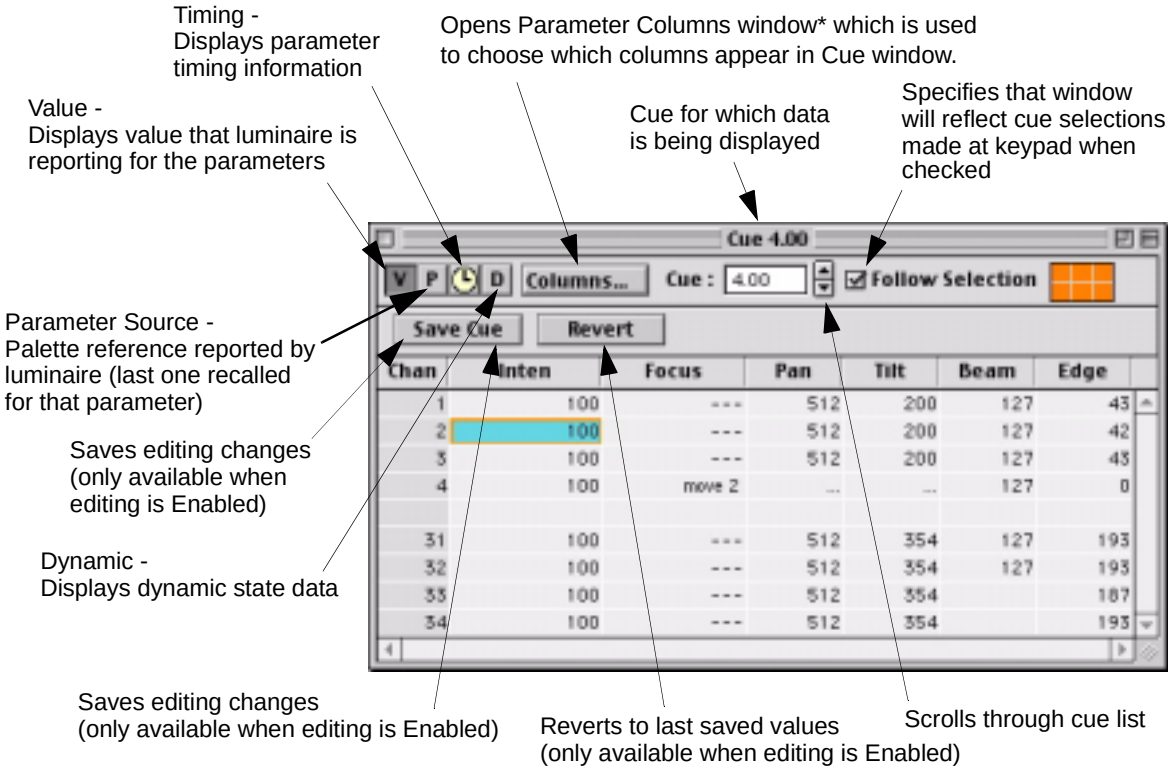
Step 1. At Data menu, select Cue Data. Cue Data window will open.

Step 2. Once window is open, Enable Cue Editing menu option will be available (as long as patch editing is disabled). If you wish to edit data, select this option. (Menu will now read 'Disable Cue Editing'.)

Step 3. Edit data according to guidelines in "Cue Editing" on page 226.

Step 4. Click Save Cue to save changes or click Revert to abort.

Step 5. To protect window from editing, select Disable Cue Editing.



* Refer to "Parameter Columns Window" on page 72.

Cue Editing

Cue data can be edited in the Cue Data window when editing is Enabled. Remember to click Save Cue to save changes (or click Revert to abort changes and reload last saved version of cue).

Editing specific lines:

- When editing a specific line of a cell, standard Macintosh text copy and paste rules will apply.

Selection:

- To select a cell, click on it.
- To extend or shrink the current cell selection(s) in a rectangular fashion, hold down SHIFT and click on another cell.
- To add or remove a specific cell, hold down ⌘ and click on that cell.

Copying:

- Any selection may be copied to the clipboard. All lines of every selected cell are placed on the clipboard. (Value, Parameter Source, Timing, Dynamic). This includes lines that you may have hidden by using the Parameter Columns window.

Pasting (General):

- When data is pasted into a cell, all contents of the destination cell are completely replaced with the contents of the cell on the clipboard. The exception would be if data for a line is out of range, in which case it is ignored. However, only those particular lines that are out of range are ignored. The rest of the cell pastes normally.
- Any parameter may be pasted over any other parameter. Range checking will be performed to prevent data corruption.
- In general, it is not possible to edit, copy, or paste any parameter column that is not in the table. The exception is the Focus and Color columns. Pasting into one of these columns is equivalent to pasting the same cell into ALL of its component columns. This will occur whether or not the component columns have been selected in the Parameter Columns window.

Pasting (One-To-Many)

- If only one cell is resident on the clipboard, the contents of that one cell will be pasted into all selected cells.

Pasting (Many-To-Many)

- If more than one cell is resident on the clipboard, the following method is used.:

  Data is pasted in Row by Row. There is a 1:1 mapping of rows in the clipboard to rows in the selection. If there are more rows in the selection than there are in the clipboard, nothing will be pasted into these rows. If there are fewer rows in the selection than on the clipboard, the remaining rows in the clipboard will be ignored.

Note: This same logic is applied to extra cells in the clipboard or selection for each row.

Notes

CHAPTER 13.

Advanced Effects Features

This chapter contains instructions for storing and modifying effects utilizing advanced console features. These instructions build on the basic store and playback instructions provided in the "Basic Effects" chapter on page 123.

- **Advanced Attributes**
- **Effect Timing**
- **Advanced Playback**

Advanced Attributes

Changing Direction, Mode, or Start Settings

Direction, Mode, and Start attributes can be defined using the Effects controls and/or associated effects windows. These attributes are always stored into an effect during a store operation and unless changed by the user, the default settings will be stored initially. (Refer to "Direction, Mode, and Start" on page 127 for descriptions of these attributes.)

When an effect is selected, the corresponding attribute buttons will light. These can be defined at the time of effects creation or changed at a later time.

Using Effects panel:

Step 1. At Effects Control, press [Effects].

Step 2. At Effects select display, press [Effect Select Button] of effect you wish to modify.

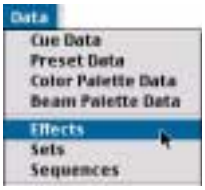
Step 3. Press buttons for new Direction, Mode, and Start settings.

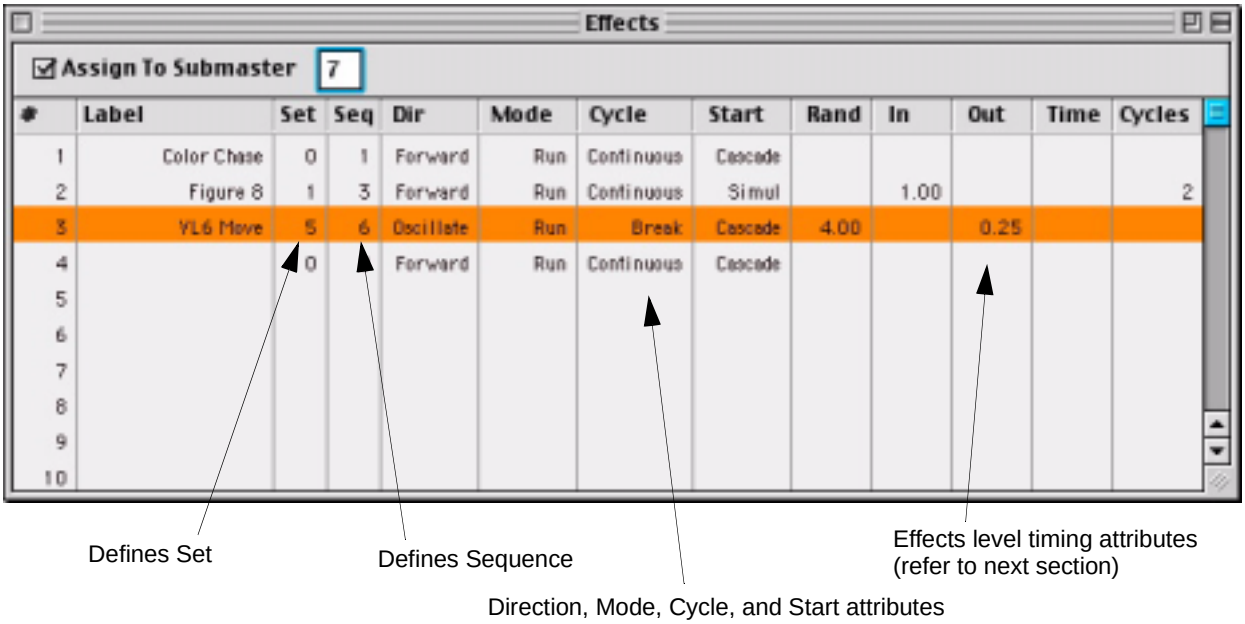
Step 4. Press [Store] / [Effect Select Button] to store changes.

Using Effects window:

Step 1. At Data menu, select Effects. Effects window will open.

Step 2. Use pop-up menus to define new Direction, Mode, and Start settings for each effect.




Effects
Assign To Submaster
7
Label Set Seq Dir Mode Cycle Start Rand In Out Time Cycles
1 Color Chase 0 1 Forward Run Continuous Cascade
2 Figure 8 1 3 Forward Run Continuous Simul 1.00 2
3 YL6 Move 5 6 Oscillate Run Break Cascade 4.00 0.25
4 0 Forward Run Continuous Cascade
5
6
7
8
9
10
Defines Set
Defines Sequence
Direction, Mode, Cycle, and Start attributes
Effects level timing attributes
(refer to next section)

Effect Timing

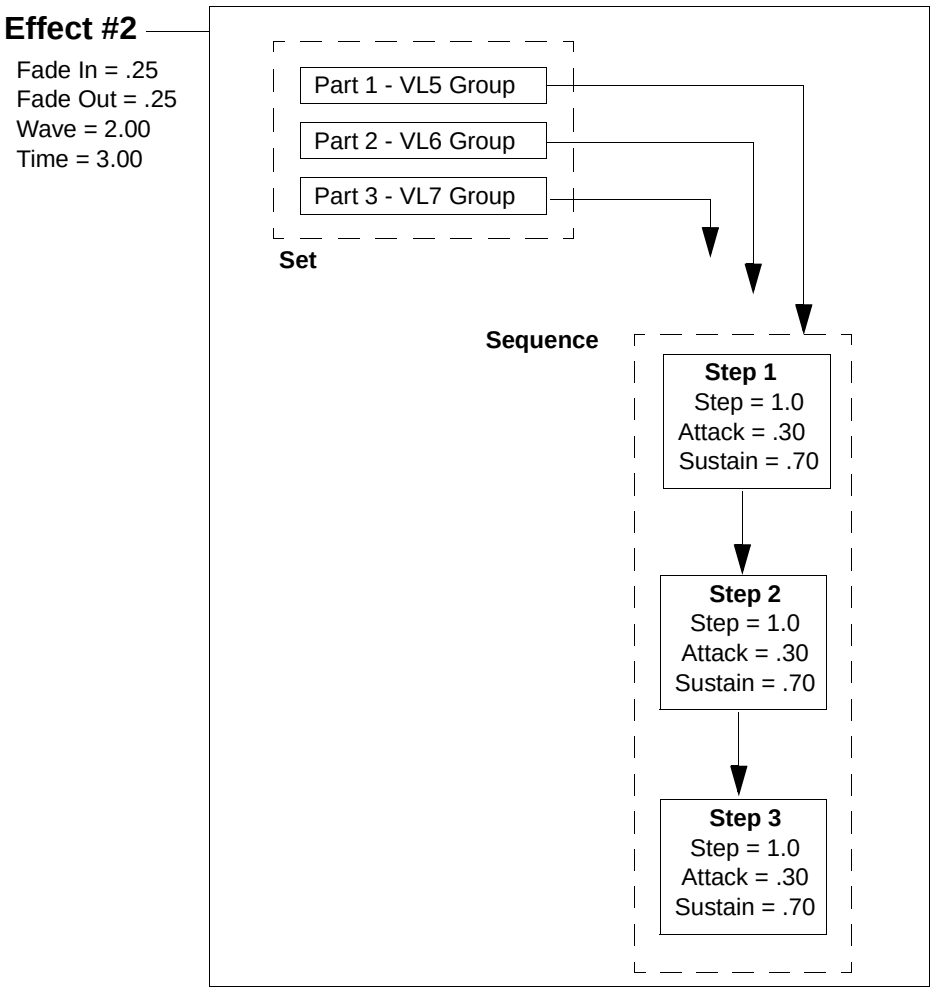
Overview

Timing values can be applied to the overall effect or to a single step of an effect to create such actions as duration, fade in, fade out, attack, sustain, and decay.

Timing values are displayed in the encoder window and can be adjusted using the encoders. Timing can also be assigned and modified using the command-line keypad and associated windows.

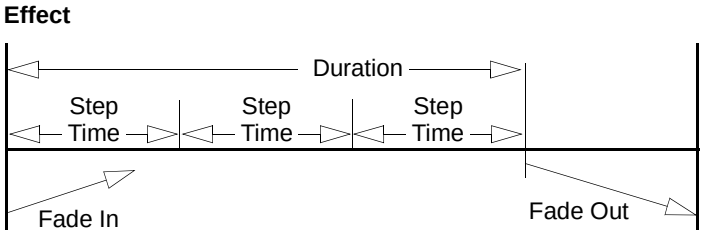
Note: When creating a new step, it will default to the same timing values as the previous step.

Example of a 3 Step, 3 Part, Cascade Effect with timing attributes

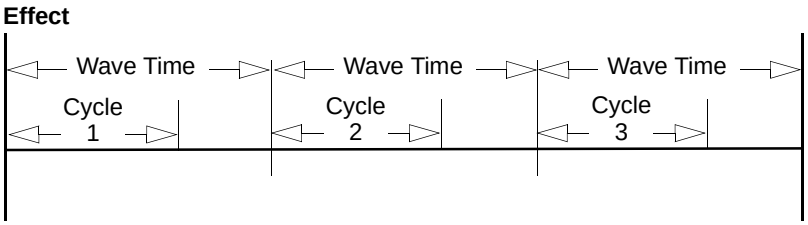


Effect Level Timing

Timing attributes are available on an effect level to control the Wave, Fade In, Fade Out, Duration (either Time or Cycles), or overall Step Times for each effect.



- **Wave** - (set using encoder *or* window) the time it will take an effect to loop back to the beginning. (Only applies to Break or Cycle modes.) A wave time can only be greater than the total sequence time (i.e., the Wave time will never cut a sequence short, only add a gap before the sequence starts again).



- **Fade In Time** (0 - 59.59) - (set using encoder *or* window) allows channels to begin the effect sequence while fading to the full intensity value required by the effect steps. (If there is no fade in time, the effect will follow the attack time in the sequence.)
- **Fade Out Time** (0 - 59.59) - (set using encoder *or* window) allows channels to fade out after exiting the effect. This timing value is only assumed by channels that are going inactive in the incoming cue, or when the cycle or duration time has expired. Any channels involved in the incoming cue would immediately cease activation in the effect and fade to their new cue levels in the time provided by the incoming cue. If there is no Fade Out Time, all channels will immediately stop the effect pattern and fade to their new instructions in the time dictated by the incoming cue. If they are not involved in the incoming cue, they will fade to inactive in the out time of the incoming cue.

- **Duration -** (set using window *only*) either an overall duration "Time" or "Cycle" count. These values can be set in the Effects window with the restriction that an effect can have one or other, but not both. Definitions for Time and Cycles are as follows:

  Time - length of time an effect will run before initiating the Fade Out time. At this point, the intensity will fade out in the time specified. (In this case, only effects which have intensity included, will respond to this value. In addition, if another submaster has intensity for those channels, Highest Takes Precedence rules apply. Refer to "HTP (Highest Takes Precedence)" on page 254.)

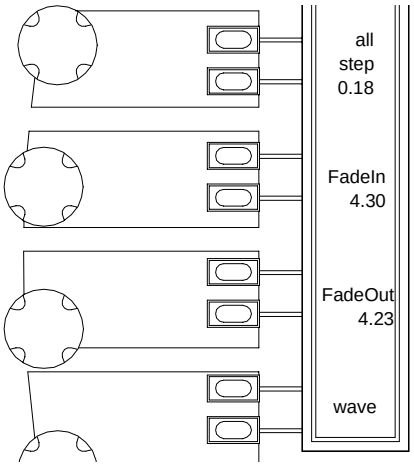
  Cycles - specifies how many times the set runs through the sequence. After running the specified number of times, the effect will stop and await manual restarting or go to the next event.

- **Step Time** - (set using encoder *only*) the time between activation of a sequence step and the next sequential step. On an effects level, Step Time can be used in two ways: either to set all sequence steps to the same timing value or to scale the timing values of sequence steps (when sequence steps have different timing values already stored). Step times can also be set individually from the Sequence Editing mode (refer to "Sequence Level Timing" on page 235) or scaled by turning the encoder. The step time shown is that of the last step. The "all" indicator is to show that all step times will change.

Assigning Effects Level Timing

Timing can be assigned and modified using the encoders, command-line keypad or the Effects window.

From Select Displays



Assign overall Step, Fade In, Fade Out or Wave timing:

Step 1. At Effects Control, press [Effects].

Step 2. At Effects select display, press [Effect Select Button] of effect you wish to modify.

Step 3. Using encoders, set times as required. (To set all step times to same value, turn encoder to 0.00 and then up to required value. Otherwise values will be scaled.)

Step 4. Press [Store] / [Effect Select Button] to store changes.

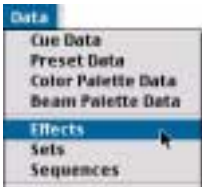
Note: The "all" indicator is to show that all step times will change.

From Effects Window

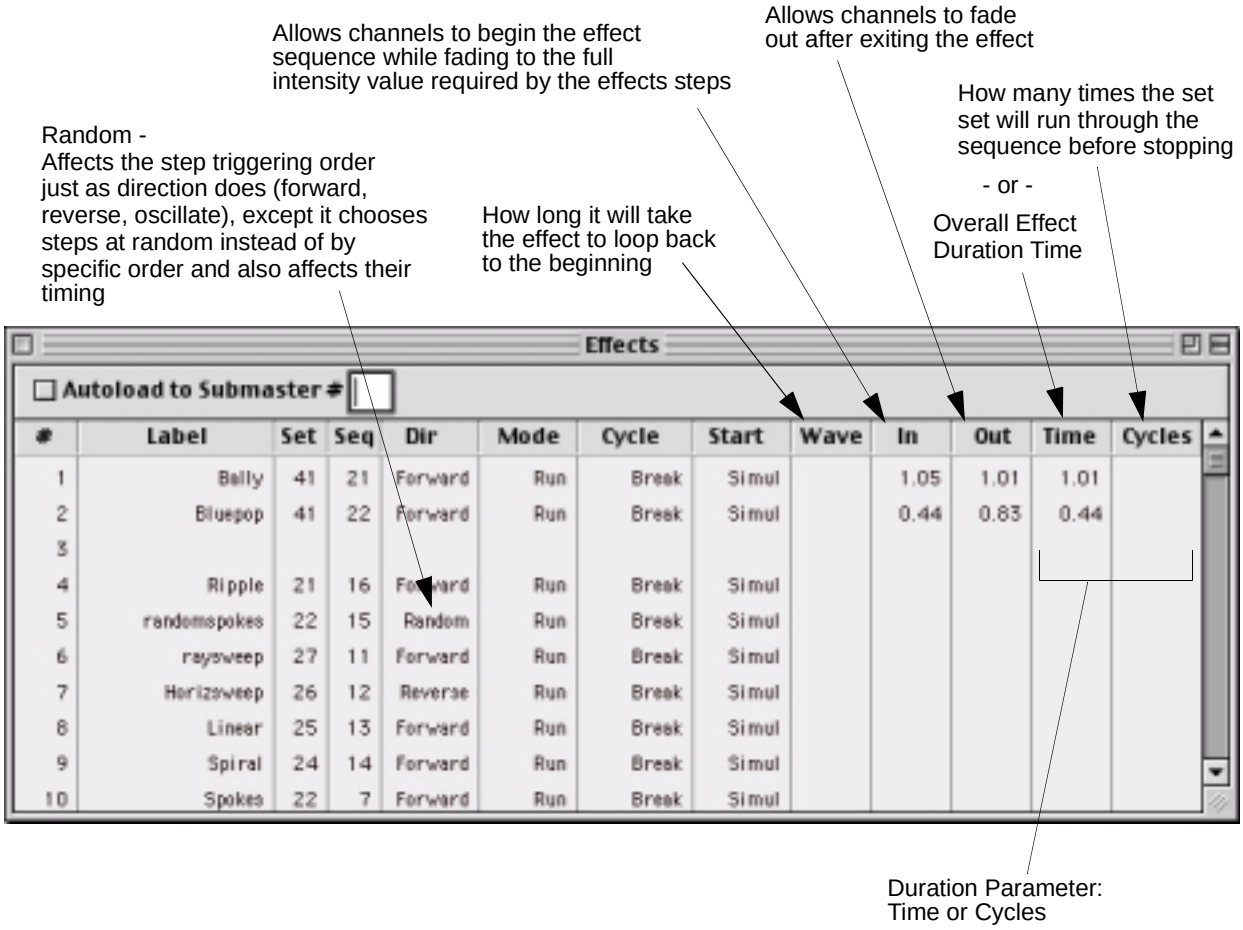
Assign a Wave, (Fade) In, (Fade) Out, or Duration (Time *or* Cycles):

Step 1. At Data menu, select Effects. Effects window will open.

Step 2. Using keyboard, enter timing information in columns as required.



Note: An effect can have either a duration time or cycle count, but not both.

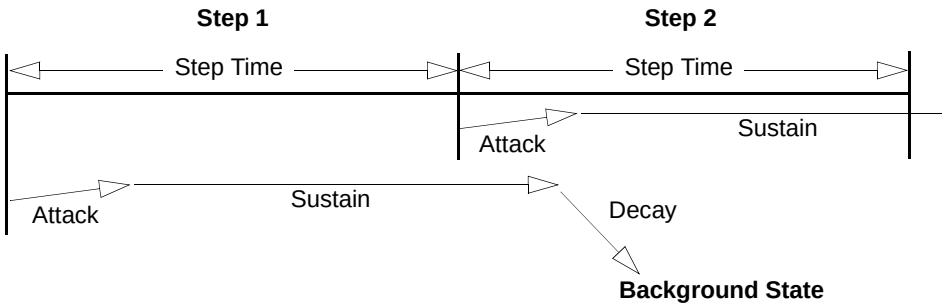

Allows channels to begin the effect sequence while fading to the full intensity value required by the effects steps
Allows channels to fade out after exiting the effect
How many times the set set will run through the sequence before stopping
- or -
Overall Effect Duration Time
Random - Affects the step triggering order just as direction does (forward, reverse, oscillate), except it chooses steps at random instead of by specific order and also affects their timing
How long it will take the effect to loop back to the beginning
Effects
Autoload to Submaster #
Label Set Seq Dir Mode Cycle Start Wave In Out Time Cycles
1 Bally 41 21 Forward Run Break Simul 1.05 1.01 1.01
2 Bluepop 41 22 Forward Run Break Simul 0.44 0.83 0.44
3
4 Ripple 21 16 Forward Run Break Simul
5 randomspokes 22 15 Random Run Break Simul
6 raysweep 27 11 Forward Run Break Simul
7 Horizsweep 26 12 Reverse Run Break Simul
8 Linear 25 13 Forward Run Break Simul
9 Spiral 24 14 Forward Run Break Simul
10 Spokes 22 7 Forward Run Break Simul
Duration Parameter: Time or Cycles

Sequence Level Timing

Timing attributes are available on a sequence level to control the step, attack, sustain, and decay for each step in the sequence.

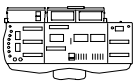
Note: When cues are included in sequences, the cue times will override step attack times, unless timing is disabled by the filters.

- **Step Time** - the time between activation of a step and the next sequential step. This can also be controlled on a universal level in the effects timing attributes (refer to "Effect Level Timing" on page 232).
- **Attack Time** - transition time between current luminaire state and state dictated by the step action.
- **Sustain Time** - how long the channels will execute the action.
- **Decay Time** - transition time out of a step into a background state. This is used only in a situation where the effect is in Break Mode and the attack and sustain times are longer than the total step time.



Assigning Sequence Level Timing

From the Effects Panel (Virtuoso Console)



Assign Step, Attack, Sustain, and Decay times:

Step 1. At Effects panel, press [Effects].

Step 2. Press [Effect Select Button] of effect you wish to modify.

Step 3. Press [Seq].

Step 4. Press [Edit]

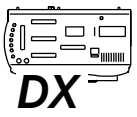
Step 5. Using timing buttons and encoder knob, set timing parameters.

Step 6. Press [Edit].

Step 7. Press [Store] / [Sequence Select Button] to store changes.

Note: Holding down the timing button and turning the encoder knob at the same time will change the time for all steps in the sequence.

From Select Displays (Virtuoso DX Console)



Assign sequence level times:

Step 1. At Effects panel, press [Seq].

Step 2. At Effects select display, press [Sequence Select Button] of sequence you wish to modify.

Step 3. At Step select display, press [Step Select Button] of step you wish to modify.

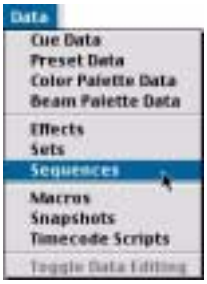
Step 4. Using encoders, set timing values. To scale timing values for all steps in sequence, press [Shift] while adjusting encoder. To set all steps to same value, turn encoder to 0.00 and then up to desired value.

From Sequences Window

Assign Step, Attack, Sustain, and Decay times:

Step 1. At Data menu, select Sequences. Sequences window will open.

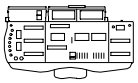
Step 2. Using cursor and keyboard, enter timing information as required.



Advanced Playback

Stop Flags

Steps can contain “stop flags” which will cause the effect to pause when that step is reached during playback. Once paused, the submaster will switch from the run mode to the stop/step mode. The effect will resume playback when [Run] is pressed again.

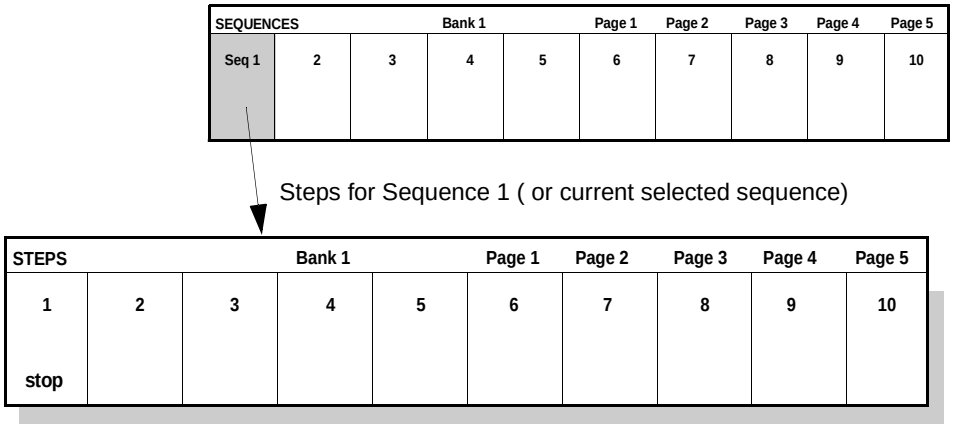


Add stop flag to a step (Virtuoso console):

Step 1. Press [Seq].

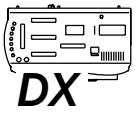
Step 2. Press [Sequence Select Button] of sequence number you wish to modify.

Step 3. Press [Edit]. (Display will switch to Steps bank for the sequence number selected in previous step.)



Step 4. Press [Stop/Flag] / [Step Select Button] for step you wish to contain a stop flag. (Stop will appear in display.)

Step 5. Press [Edit] to return to Sequence display.



Add stop flag to a step (Virtuoso DX console):

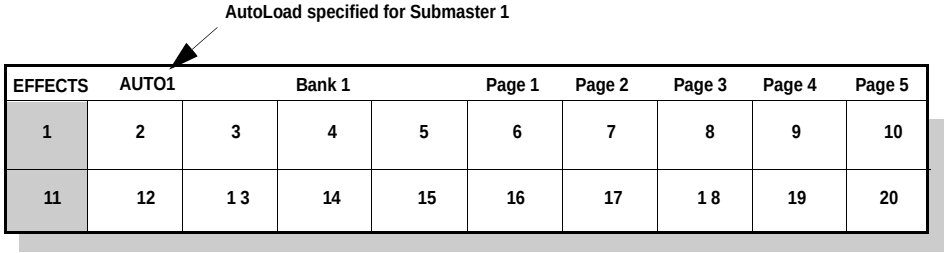
Step 1. At Effect Control, press [Seq].

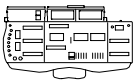
Step 2. Press [Sequence Select Button] of sequence number you wish to modify.

Step 3. For step you wish to contain a stop flag, press and hold [Step Select Button] and then press [Stop/Flag]. (Stop will appear in display.)

Auto Load

The Effects select display can be placed in Auto Load mode for automatic submaster loading. Once in Auto Load mode, when an effect, set, or sequence is selected at the Effects select display, it will automatically load into the specified submaster.





Virtuoso Console

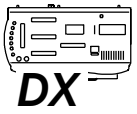
Auto Load is set at the Effects select display.

Turn on Auto Load:

- At Effects select display, press [Assign] along with submaster [Choose] to specify submaster for autoload. When you press an [Effect Select Button], effect will now autoload into submaster.

Turn off Auto Load:

- At Effects select display, press [Bank/Function] / [No A/L] *or* press [Assign] along with submaster [Choose] to toggle Auto Load mode off.



Virtuoso DX Console

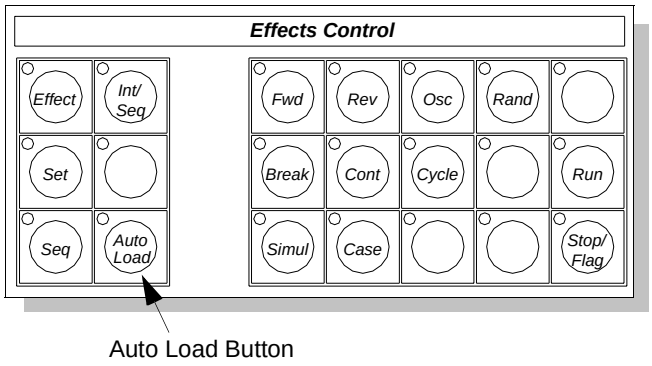
Auto Load is set at the Effects Control panel.

Turn on Auto Load:

- At Effects Control panel, press [Autoload] along with submaster [Choose] to specify submaster for autoload. When you press an [Effect Select Button], effect will now autoload into submaster.

Turn off Auto Load:

- At Effects select display, press [Autoload] along with submaster [Choose] to toggle Auto Load mode off.



Run/Stop Control

The Run and Stop modes are used to start, stop, and step through an effect when in AutoLoad mode (see previous page). These will override any submaster actions when an effect is assigned to a submaster. Pressing either button at the Effects panel will operate the effect by stopping, stepping, or running.

Stop/Flag - Stops or steps through an effect. When in a stopped state, pressing [Stop/Flag] will advance through the steps of an effect, one with each button press, in time. When an effect is active in a submaster and [Stop/Flag] is selected, the effect will not execute when the submaster [Go] button is pressed.

Run - Starts an effect. When an effect is active in a submaster and Run is selected, the effect will execute when the submaster [Go] button is pressed.

Notes

CHAPTER 14.

Submasters

This chapter contains instructions for operating the playback submasters.

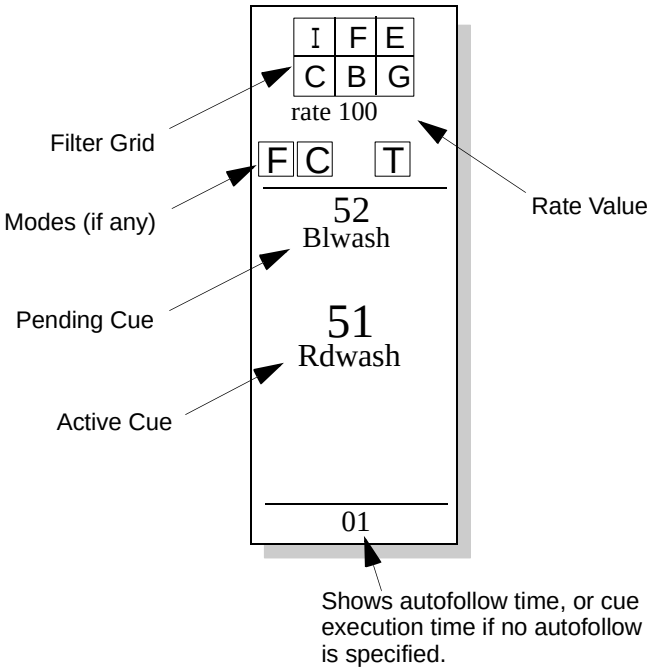
- **Submaster Overview**
- **Submaster Modes**
- **Playback Intensity Level**
- **Playback**

Submaster Overview

Panel Submasters

The 30 available submasters are used for playback of events. These standard submasters are used for typical execution of cues (effect or crossfade types) or effects. One way to operate the submasters is by using the "hard" faders and displays at the console front panel. Submasters can be mapped ten at a time by selecting one of three banks: [1-10], [11-20], or [21-30] as required

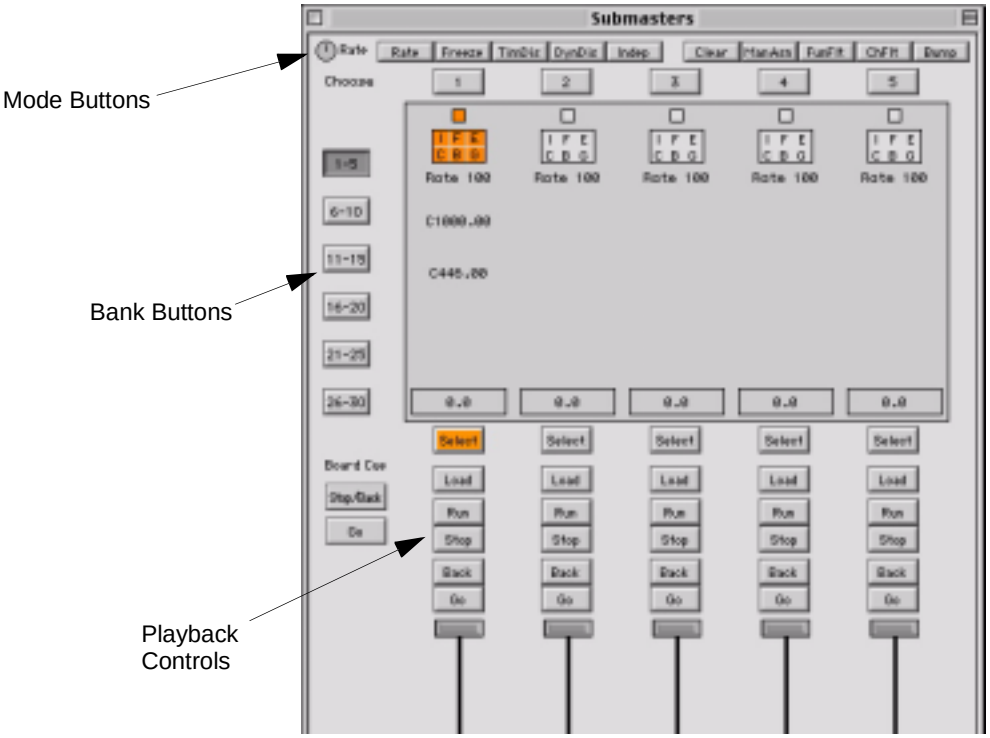
The display associated with each panel submaster provides status information which includes pending and active cues, rate value, filter settings, a timing counter, and mode indicators.



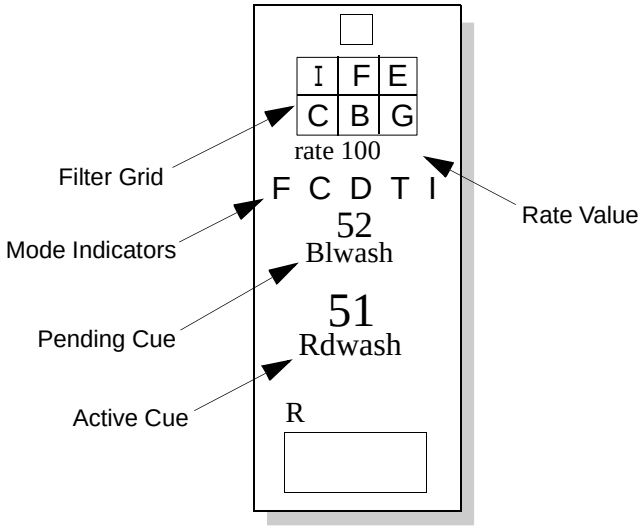
Submasters Window

The Submasters window can be used to control playback of events just as the panel submasters. Bank buttons provide access to all 30 “soft” submasters in groups of five.

- At Panels menu, select Submasters to access window.



The display associated with each submaster provides status information which includes pending and active cues, rate value, filter settings, a timing counter, and mode indicators.



Submaster Modes

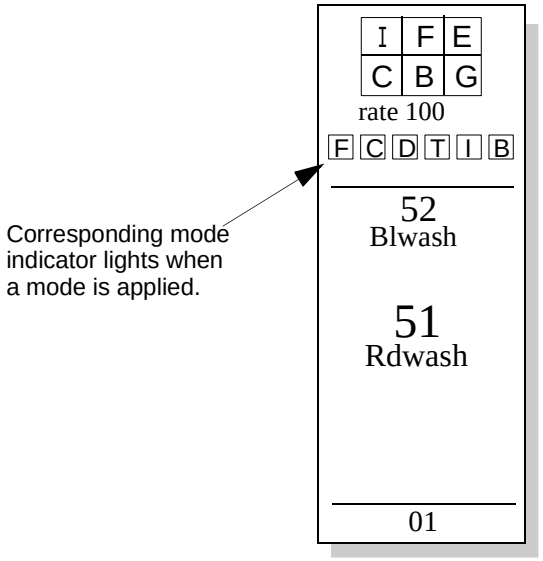
Using [Choose] and [Clear]

Choose

The [Choose] button, when pressed along with any of the submaster control buttons, allows the submaster to be placed in a variety of different modes.

These modes: Rate, Freeze, Function Filter, Channel Filter, Dynamic Disable, Time Disable, Independent, and Manual Assign can be used for advanced control of events during playback or to assign control of specific channels to a submaster.

When Function Filter, Channel Filter, Dynamic Disable, Time Disable, and Independent modes are assigned, the mode indicator in the submaster display will light accordingly.

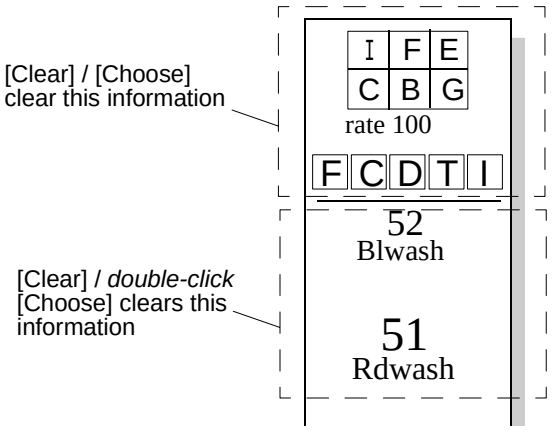


To release a submaster from a specific mode, press function button (for example, [Dyn Dsbl]) along with the [Choose] button for the required submaster. (The functions are toggled on and off using this method.)

Note: It is possible to set up all submaster modes without having the submaster selected except Manual Assign.

Clear

The [Clear] button releases a submaster from any applied modes and clears any active or pending cues (returning the submaster to its default state). The clear feature is a 2-step process, so that mode setting and cue information can be cleared separately.



Clear modes, filter, and rate settings from a submaster:

- Press [Clear] along with the [Choose] button for the required submaster.

Clear active and pending cues from a submaster:

- Press [Clear] along with double-clicking the [Choose] button for the required submaster.

Rate

The Rate feature speeds up or slows down the playback of events (cues or effects).

The Rate encoder allows a percentage adjustment from 0-999 with 999% being the fastest rate and 0% causing the event to stop.

- The default is 100%, which is real time (5 seconds = 5 seconds).
- Decrease the percentage to slow down the event (50% rate applied to 5 seconds = 10 seconds).
- Increase the rate percentage to speed up the event (200% rate applied to 5 seconds = 2.5 seconds).

Guidelines:

- All timing values associated with an event (luminaire delay and times, cue out time, waits and trails) are affected by the rate modification proportionally.
- If a cue is complete, the rate adjustment will affect the pending cue. When the pending cue is activated, the adjusted rate is used to determine timing.

Set rate for a submaster:

Step 1. Press [Rate] along with [Choose] button for required submaster.

Step 2. Use Rate Control encoder to adjust rate to required value.

Release submaster from Rate mode:

- Press [Rate] / [Choose] at submaster to clear.

Freeze

The Freeze feature halts an event in mid-transition.

Note: If a cue is stored while a submaster is frozen, the end goal of the event will be the data stored.

Freeze a cue:

Step 1. Press [Freeze] along with [Choose] button for required submaster. This will instantaneously halt the cue or effect.

Step 2. Press the [Run] button to resume cue, or press [Back] button to fade to previous cue on that submaster in associated time values, (unless timing is filtered).

Function Filter

The Function Filter applies filters to a submaster for modification of a cue or effect during playback. The Function Filter works in conjunction with the touch screen display's Filter Mode.

Guidelines:

- The function filter does not become active until the next event is recalled.
- If a cue has a mask associated with it, the submaster filter state will override the mask. (All parameters will be played back, whether or not they were originally intended for playback when the cue was stored.) Refer to "Masking" on page 160.

Apply filters to a submaster:

Step 1. At touch screen, select Filter Mode and set filter parameters.

Step 2. Press [Func Filter] / [Choose] on required submaster.

Modifying filter settings:

If filters are modified at the touch screen after initially assigning to a submaster, you must press [Func Filter] / [Choose] again to update the filter changes in the submaster.

Using Filters with Effects

Filters can be used with effects to withhold information from cues, beams, and presets when they are part of an effect sequence. When cues are included in sequences, the cue times are used instead of attack times, unless timing is disabled in the filter selection.

Clear filters from submaster:

Step 1. At touch screen, clear all filter selections.

Step 2. Press [Func Filter] / [Choose] at submaster to clear.

Channel Filter

The Channel Filter feature is used to specify certain channels for playback on a submaster. Those "filtered" channels then become the only channels used by the submaster whenever it plays back a cue or effect.

Filter a channel(s):

Step 1. Select required channels.

Step 2. Press [Chan Filter] along with [Choose] button for required submaster.

Release a Channel Filter:

Step 1. Deselect all channels.

Step 2. Press [Chan Filter] / [Choose] at submaster to clear.

Dynamic Disable

The Dynamic Disable feature disables the playback of any macros and/or snapshots linked to a cue. For example, if you wish to view data in a particular cue, you could disable any linked event(s) so that it will not occur upon completion of the cue.

Apply Dynamic Disable to a submaster:

- Press [Dyn Dsbl] along with [Choose] button for required submaster.

Release a submaster from Dynamic Disable mode:

- Press [Dyn Dsbl] / [Choose] at submaster to clear.

Timing Disable

The Time Disable feature causes timing data to be ignored for any cues that are activated on that submaster while it is in timing disable mode.

Apply Timing Disable to a submaster:

- Press [Time Dsbl] along with [Choose] button for required submaster.

Release Timing Disable mode:

- Press [Clear] along with [Choose] button of associated submaster to clear submaster of all modes.

Independent

The Independent feature prohibits a specific submaster from having its content modified by any other submaster (although it can still be modified manually or by the Grand Master/Blackout fader).

Example:

If a channel is controlled by Submaster 1 and intensity control is subsequently assumed by Submaster 2, and Submaster 2 is independent, that intensity value is now independent and cannot be affected by any changes to Submaster 1's fader setting.

Make a submaster independent:

- Press [Ind] along with [Choose] button for required submaster.

Release independent mode:

This action will not modify the output of the submaster, only enable those channels/ parameters to be available for control by other playbacks.

- Press [Clear] along with [Choose] of associated submaster to clear submaster of all modes.

Manual Assign

The Manual Assign feature loads any selected channels and their current parameter settings into the submaster for control. The submaster fader can then be used to scale the intensity output for those channels. For example, this function could be used to adjust the intensities of specific luminaires in order to brighten or dim certain areas of a stage.

When channels are manually assigned to a submaster, the current cue or stage look associated with those channels is now controlled by the submaster fader until such time as the manual assignments are cleared from the submaster, a new cue is played, or a manual control action is made at the Manual Control panel.

Guidelines:

- Channels/parameters can be taken away from the submaster when a new command is issued by a playback, unless the submaster is in independent mode (refer to "Independent" above).
- Manual assignments will be cleared when a new cue is played back on that submaster; the channels will fade out in the out fade time of the incoming cue or effect.
- If filters are being used with the submaster, they will modify the manually assigned channels accordingly (refer to “Function Filter” on page 246).
- Unlike other submaster functions, the submaster must first be selected before assigning manual control.
- Channels may be added by manual assignment to a submaster that has channel filters. However, this does not add those channels to the list of filtered channels (refer to “Channel Filter” on page 247).

Manually assign a channel, range of channels, or group:

Step 1. Select required channels.

Step 2. At required submaster, press [Select].

Step 3. Press [Man Assign] along with [Choose] button for required submaster.

Assign new channels to a previous manual assignment:

The Manual Assign function is an additive process which will allow you to add channels to an existing manual assignment.

Step 1. Select new channels.

Step 2. At required submaster, press [Select].

Step 3. Press [Man Assign] along with [Choose] button for required submaster.

Release a manual assignment using [Choose] or [Clear]:

When releasing a submaster from a manual assignment using these methods, no parameter data will be changed; the channel is just no longer associated with that submaster.

- Press [Man Assign] / [Choose] / [Choose] at associated submaster, *or*
- Press [Clear] along with [Choose] button of associated submaster to clear submaster of all modes.

Intensity Level with Manual Assign

When channels are assigned to a submaster using the Manual Assign function, the current intensity value for the selected channels at the time of being assigned becomes the full intensity range which can be adjusted by the submaster fader.

Example 1:

If a channel is assigned while its intensity value is at 100%, the submaster fader will have control of all 100% of the luminaire's potential intensity output. Subsequently reducing the submaster fader from 100% to 50% would result in a luminaire intensity value of 50%.

Example 2:

If a channel is assigned while its intensity value is at 50%, the submaster fader will have control of only half of the luminaire's potential intensity output (scaled appropriately to the fader's full range). Subsequently reducing the submaster fader from 100% to 50% would result in a luminaire intensity value of 25%.

Bump

When in Bump mode, pressing the submaster's [Select] button will instantly "bump" to the full intensity provided by the cue as modified by the fader position.

Bump intensity of active cue to 100%:

Step 1. Press [Bump] along with [Choose] button for required submaster. Submaster is now in Bump mode and [Select] will begin flashing.

Step 2. Press [Select] to bump intensity.

Release submaster from Bump mode:

- Press [Bump] / [Choose] at submaster to clear.

Board Command Disable

The Board Command Disable feature causes any linked snapshots, macros or autofollows to be ignored during playback of any cue. This feature can be useful for recalling the core data for any cue.

Apply Board Command Disable to a submaster:

- Press [BdCmd Disable] along with [Choose] button for required submaster.

Release Board Command Disable mode:

- Press [Clear] along with [Choose] button of associated submaster to clear submaster of all modes.

Playback Intensity Level

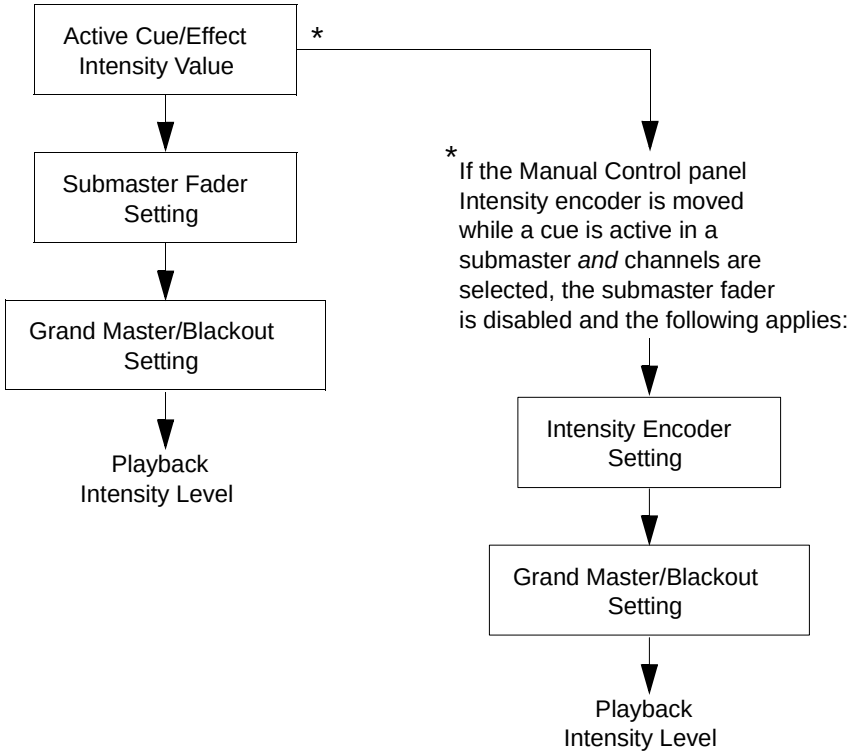
How Playback Intensity is Determined

Earlier in this manual, intensity was discussed in relation to cue store operations (refer to "Intensity States" chapter on page 117 and "How Faders Affect Intensity" on page 211). This stored intensity state or level, along with the current setting of submaster and Grand Master faders, are used in determining the *final* playback intensity level for any given event.

As previously mentioned, the Grand Master fader is used to master the overall intensity output for the console, while the individual submaster faders control the intensity level of events being played back. Final intensity is determined by the following combination:

- Intensity value stored in the cue or effect being played back.
- Fader setting of the submaster being used to playback the event. (If more than one submaster is selected and their levels are different, then the HTP principle will also be involved. Refer to "HTP (Highest Takes Precedence)" on page 254.)
- Setting of the Grand Master fader or associated [Black Out] button.

Intensity values are routed through the faders as follows:


Active Cue/Effect Intensity Value
*
Submaster Fader Setting
Grand Master/Blackout Setting
Playback Intensity Level
* If the Manual Control panel Intensity encoder is moved while a cue is active in a submaster *and* channels are selected, the submaster fader is disabled and the following applies:
Intensity Encoder Setting
Grand Master/Blackout Setting
Playback Intensity Level

Example Scenarios

The following examples will give you an idea how stored intensity values and fader settings work together to determine an intensity level for playback.

The final playback intensity level is a percentage of what was stored in the original cue and not a percentage of the luminaire's full potential intensity output.

Note: These simplified examples are intended to help show the relationship of intensity controls. Many more combinations are possible.

Playback Scenario 1:

Cue 52 has a stored intensity value of 100%.
Submaster fader playing Cue 52 is set at 50%.
Grand Master fader is set at 100%.
Cue 52 will play back at an intensity level of 50%.

Playback Scenario 2:

Cue 54 has a stored intensity value of 100%.
Submaster fader playing Cue 54 is set at 50%.
Grand Master fader is set at 50%.
Cue 54 will play back at an intensity level of 25%.

Playback Scenario 3:

Cue 56 has a stored intensity value of 50%.
Submaster fader playing Cue 56 is set at 100%.
Grand Master fader is set at 100%.
Cue 56 will play back at an intensity level of 50%.

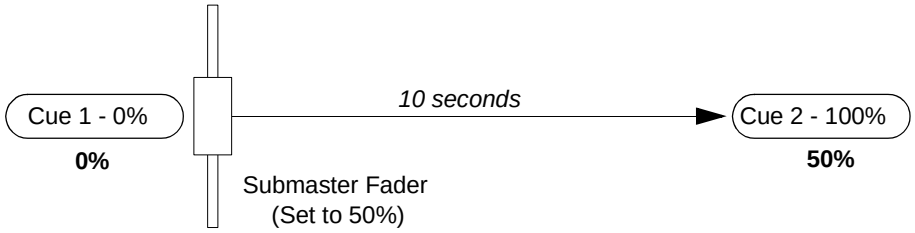
Playback Scenario 4:

Cue 58 has a stored intensity value of 50%.
Submaster fader playing Cue 56 is set at 50%.
Grand Master fader is set at 50%.
Cue 56 will play back at an intensity level of 12.5%.

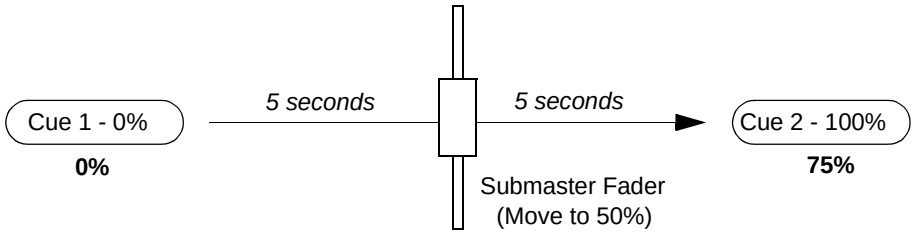
Intensity Transitions

When playing back cues with intensity transitions (timed fades), the submaster fader can be used to scale the intensity output.

- If the fader is set *before* the transition occurs, the entire transition will be scaled accordingly. For example, if a timed fade of 10 seconds is defined between Cue 1 (which has a stored intensity value of 0%) and Cue 2 (which has a stored intensity value of 100%), then setting the submaster fader at 50% before the transition occurs would result in a 10 second fade from 0% intensity to 50% intensity.



- If the fader is moved *during* the transition, the remaining portion of the transition will be scaled accordingly. For example, if a timed fade of 10 seconds is defined between Cue 1 (which has an intensity value of 0%) and Cue 2 (which has an intensity value of 100%), and the fader is dropped to 50% halfway through the transition, then the result would be a 5 second fade from 0% intensity to 50% intensity followed by a 5 second fade from 50% intensity to 75% intensity.



HTP (Highest Takes Precedence)

The principle of Highest Takes Precedence is also important to understand when storing or playing back a cue. In a case of intensity conflict (e.g. two selected submasters are set at different levels), the HTP principle decides which intensity value will be ultimately applied to the luminaire. (When storing a cue, the stored value is also the result of this determination.)

Each luminaire continuously evaluates the intensity level provided by each submaster including time fades and fader position. The submaster providing the highest intensity level will determine the luminaire's actual intensity level.

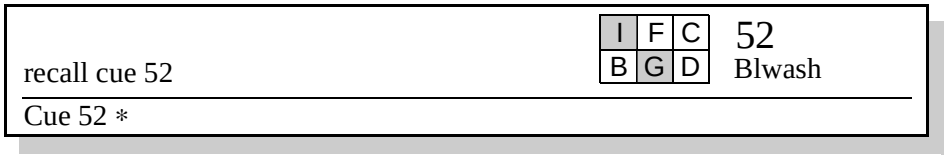
Playback

Advanced Playback of Cues

A cue loaded into a submaster becomes the pending cue. When [Go] is pressed, the pending cue will play.

Play a cue:

Step 1. At keypad, press [Cue] [n] [Enter] or scroll through cue list to select cue. It will be displayed in the keypad window.



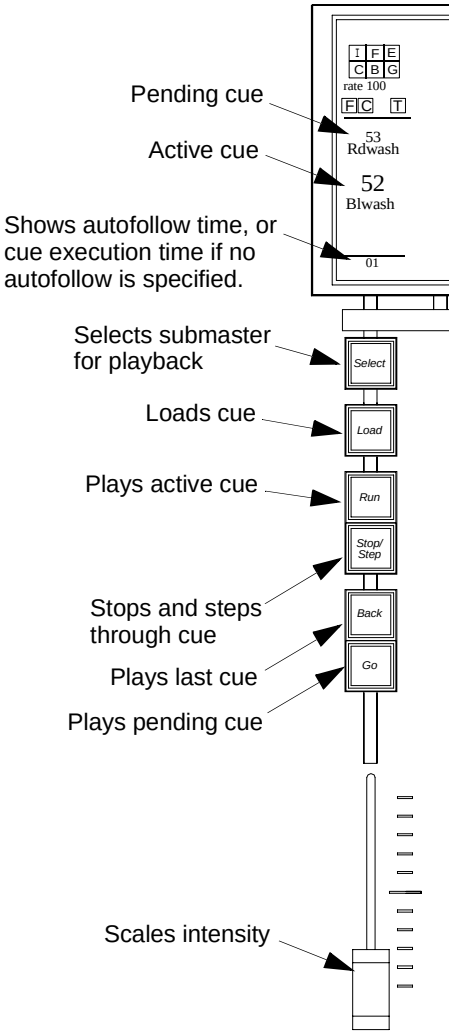
Step 2. At required submaster, press [Select] to select submaster for playback function.

Step 3. Press [Load] to place cue in pending file (as shown in submaster display).

Step 4. Set Grand Master fader at required level.

Step 5. Set submaster fader at required level.

Step 6. Press [Go] to play cue.



Play next cue:

The submaster always sequences, placing the next sequential cue from the cue sheet or any linked cue in its pending file. Linked cues without wait times will await manual execution.

- Press [Go] again to play next cue.

Play previous cue:

- Press [Back] to play previous cue (previously active on that submaster). Subsequent presses of [Back] will step backwards through cue sheet.

Play a cue again:

- Press [Run] to play active cue again.

Controlling Linked Playback

The submaster always sequences, placing the linked cue in that submaster's pending file or the specified submaster's pending file. Linked cues with an associated wait time will automatically execute after the wait time has elapsed. If no wait time has been defined, the linked cue will await manual execution. A linked macro will automatically execute.

The [Stop/Step] button can be used to halt the automatic playback of linked cues which have an associated wait or trail time.

Stop countdown of wait times:

Step 1. Press [Stop/Step] to stop countdown.

Step 2. Press [Run] to continue the countdown or press [Go] to advance to the next cue.

Fade Times for *Marked*/*Zero*/*Out* Cues

During playback, cues stored with intensity states other than *active* will assume different fade out times depending on the state.

- Cues with *marked* and *zero* instructions will use the intensity down time associated with the channel.
- Cues with an *out* (*inactive* state) instruction will follow the out time associated with the cue.

CHAPTER 15.

System Setups

This chapter provides instructions for setting the console's default options, display settings, and multi-console system options.

- **Default Options**
- **Display Filters**
- **Multi-Console Features**
- **Off-Line Programming**

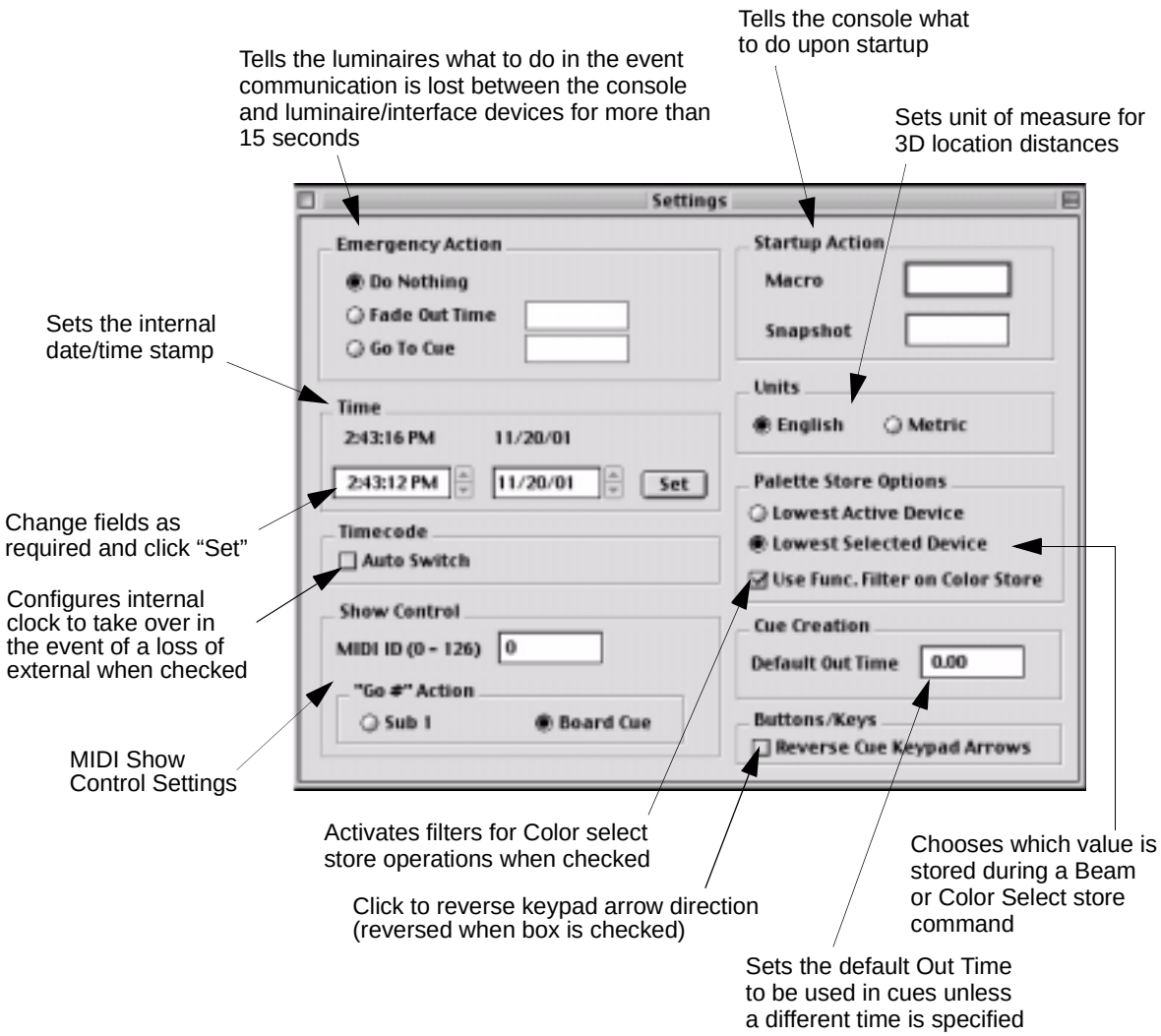
Default Options

Settings Window

The options available in the Settings window are advanced setups that are not required when first powering up and patching your system. These can be changed at any time.

To change settings:

- At Setup menu, select Settings. Settings window will open.


Tells the luminaires what to do in the event communication is lost between the console and luminaire/interface devices for more than 15 seconds
Tells the console what to do upon startup
Sets unit of measure for 3D location distances
Sets the internal date/time stamp
Change fields as required and click "Set"
Configures internal clock to take over in the event of a loss of external when checked
MIDI Show Control Settings
Activates filters for Color select store operations when checked
Click to reverse keypad arrow direction (reversed when box is checked)
Sets the default Out Time to be used in cues unless a different time is specified
Chooses which value is stored during a Beam or Color Select store command
Settings
Emergency Action
Do Nothing
Fade Out Time
Go To Cue
Startup Action
Macro
Snapshot
Time
2:43:16 PM
11/20/01
2:43:12 PM
11/20/01
Set
Units
English
Metric
Timecode
Auto Switch
Palette Store Options
Lowest Active Device
Lowest Selected Device
Use Func. Filter on Color Store
Show Control
MIDI ID (0 - 126)
0
"Go #" Action
Sub 1
Board Cue
Cue Creation
Default Out Time
0.00
Buttons/Keys
Reverse Cue Keypad Arrows

Default Explanations

Emergency Action

Default: Do nothing (remain in current state)

This setting determines what event is to occur if communication is lost between the console and the luminaire/interface devices for longer than 15 seconds. This information is sent upon console start-up in case of an emergency. You may determine one of the following:

- Do nothing. Luminaires will do nothing.
- Fade out in n seconds. System will fade out in the specified number of seconds.
- Go to Cue n. Luminaires will assume the specified cue action.

Startup Action

Default: No startup action

This setting determines what event is to occur upon power up of the console. You may specify one of the following:

- Macro. Console will execute the specified macro.
- Snapshot. Console will execute the specified snapshot.

Date/Time Stamp

Sets the computer's internal date and time values for the console.

Units

Default: English

This sets the unit of measure, used with the 2D/3D location configuration.

Palette Store Options

Default: Lowest Active

This setting tells the console whether to draw data from lowest active or lowest selected channel during a Beam or Color store operation.

The "lowest active" setting draws data from the lowest channel number with intensity of that type, regardless of selection. The "lowest selected" setting draws data from the lowest selected channel number of that type, regardless of intensity state.

Use of Filters with Color Store

Default: Filters not used

This setting defines whether or not function filters impact Color select store operations.

Buttons/Keys

This setting defines which direction the keypad [▽] and [△] arrows will function.

Timecode Autoswitch

Default: Off

This setting defines whether the internal timecode clock will takeover or not when an external signal is lost. (Enabled when box is checked.)

Display Filters

Loading Filters

Console status windows can be configured to include data from specified channels only. Once a display filter has been loaded, only data from the specified channels would be shown in the status windows and only these luminaires would appear in the 3D Graphic window.

Load a display filter:

Step 1. Select only channels you wish to be displayed in status or 3D Graphic windows.

Step 2. At Special menu, select Load Display Filter.

Step 3. To load a new display filter, repeat steps 1 and 2 for different groups of channels.

Clear a filter:

Step 1. Clear all channel selections.

Step 2. At Special menu, select Load Display Filter.

Multi-Console Features

Setting Up a Backup Console

Virtuoso will allow a second console to be connected to a single lighting system. This feature can be used to ready a backup console for quick takeover of system operations in the event the main console goes down. To configure the system for multiple console connection, it is necessary to setup one console as a primary and others as secondary.

Note: Full multi-user programming capability is not yet implemented. Therefore, it is recommended that no more than one console be used to program a show at one time.

Primary and Secondary Setups

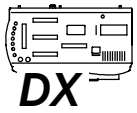
In a multi-console setup, there are two possible console configurations. The configuration for each console depends on the purpose and system limitations for that particular multiple console setup.

- **Primary Console**. This console serves as the main system console. It stores the show file and retains overall submaster control.

  Notes: Each system must have a primary console.
  Only one primary console per system is allowed.

- **Secondary Console**. This console is an additional console hosted by the primary console. It receives show data from the primary and mirrors all submaster operations.

  Notes: As many secondary consoles as required are allowed.
  Must be used in conjunction with a primary console.



Note: The Virtuoso DX console DMX outputs are only active in the Primary setup.

Online Backup

The online backup feature is active when a main console and a backup console are connected in a system. The online backup allows the backup (secondary) console to track all show file changes made at the main console so that if the backup console is required to takeover, the transition is seamless (without a console reset or data download to the system).

Power Up

When powered up, a console will assume its previous configuration. The configuration information is stored along with the show file. If a system detects multiple primary consoles, a dialog will pop up requiring you to choose a single primary console. When the primary console is configured in this case, the conflicting console(s) will automatically respond to the new configuration setup.

Tip It is good practice to power up the primary console first in a multi-console setup.

Configuring Multiple Consoles

By default, in a single console setup, the console will automatically be configured as the primary console. In a multi-console setup, secondary consoles can be configured at the File menu.

Configure a secondary console:

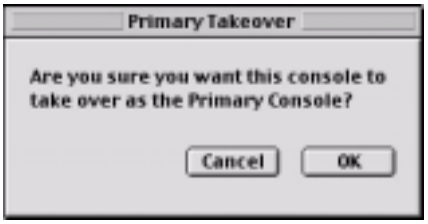
Step 1. At console to be configured, at Virtuoso icon menu, select Config as Secondary Console...

Step 2. At confirmation window, click OK to proceed or Cancel to abort.

Takeover as primary console:

Step 1. At console to become primary, at File menu, select Takeover as Primary Console...

Step 2. At confirmation window, click OK to proceed or Cancel to abort.



Naming consoles:

Step 1. At System Configuration window, double-click icon of console to be named or at Virtuoso icon menu, select Versions... Versions window will open.

Step 2. At name field, type console name.

Step 3. Close window.

Connecting Virtuoso DX Backup in Standard Ethernet Systems

There are special considerations to observe when networking two Virtuoso DX consoles together without using any external devices such as Network Interface (NIF) units or nodes.

When two Virtuoso DX consoles are networked together and programming changes are being made, the modified cue data is NOT synchronized to the other console's DMX output cards. The data is backed up to both hard drives, however, in the event you need to switch to the backup console the data may be different unless the backup console is reset. Only the DMX ports on the Primary console will output show data. Therefore, this backup configuration should only be used when the show programming is complete and changes are not being made during the show.

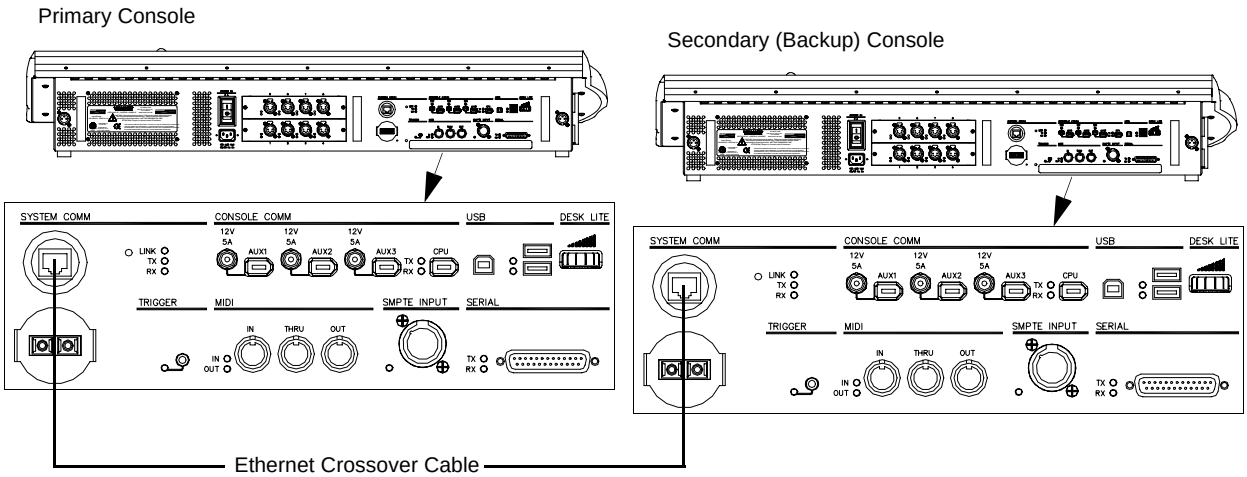
To connect and configure the consoles, do the following:

Step 1. Power up both consoles WITHOUT network cable in place.

Step 2. Verify that current show file is on both consoles, using a ZIP disk to transfer files if necessary.

Step 3. Connect system DMX cables to console that will be designated as PRIMARY.

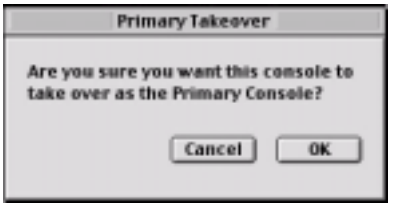
Step 4. Connect Ethernet crossover cable between both consoles as shown in illustration below.



Step 5. When system detects multiple primary consoles, a dialog will pop up requiring you to choose a single primary console. At main console, acknowledge dialogs to configure as PRIMARY.

Step 6. At backup console, acknowledge synchronize dialogs to configure as SECONDARY. Consoles are now prepped for this networking configuration.

In the event of a Primary console failure, do the following:



Step 1. At backup console, at File menu, select Takeover as Primary Console...

Step 2. At confirmation window, click OK. This activates the DMX outputs on this console and disables them at the original primary console.

Step 3. At any active submasters, press [Run].

Step 4. Physically move DMX system cables from original primary console outputs to backup console outputs.

Step 5. Proceed with show.

Disable Console

The disable feature is used to disable the console's front panel and graphic interface ability. A disabled console will still provide status feedback, sync submasters, and appear in the System Config window, but all user control is temporarily disabled.

Note: Any primary or secondary console can be disabled as required.

Disable a console:

- At console to be disabled, at Virtuoso Icon menu, select Disable Console...

Re-enable a console:

- At console to be re-enabled, at Virtuoso Icon menu, select Enable Console...

Off-Line Programming

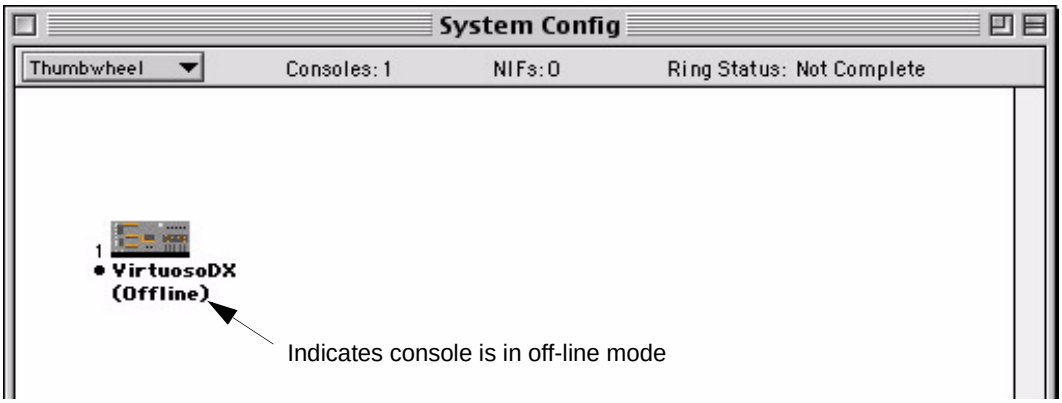
Performing Off-Line Programming

The Off-Line feature allows preprogramming without having to connect to a system. When in the Off-Line Mode, all menus and windows are accessible just as if the system were on-line. The only apparent difference is found in the System Configuration window which will not display any device icons except for the console while off-line.

Note: The Off-Line feature does not eliminate the need for a console. The Visionary 3D application is available for programming offline without a console.

Set console to Off-Line Mode:

- At Virtuoso icon menu, select Off-Line. When in off-line mode, system configuration window will not display any connected system devices and "offline" will appear next to the console icon.



The Status Indicator Bar will also indicate that the console is in Off-Line Mode. Also, when the system is Off-Line, the Live/Preview modes will not be available.

Note: When an offline console is brought on-line, the Live mode will be restored by default, even if the console was previously in Preview mode.

VARI*LITE Software Downloads

VL2000 Luminaires

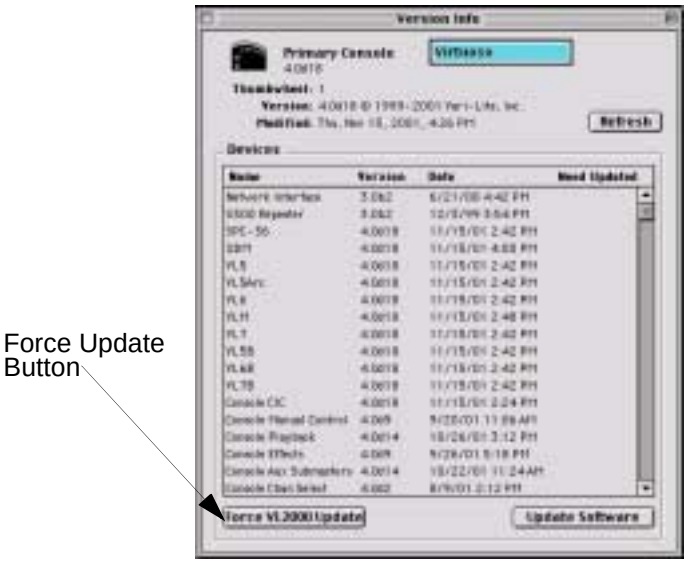
VL2000 luminaire software may now be downloaded from the Virtuoso DX console. Software updates can only be done when luminaires are in VL2000 mode.

To download VL2000 software:

Step 1. Create new show file without a patch.

Step 2. At Virtuoso menu, select Versions...

Step 3. At Version Info window, click Force VL2000 Update button.



Note: Thumbwheel conflicts will not matter when updating VL2000 software (except for VL2402™ luminaires).

After this procedure, the VL2000 luminaires will show their version and update it as the version changes via the Force VL2000 Update button.

Notes

CHAPTER 16.

3D Graphic Display

This chapter provides instructions for using the Virtuoso 3D Display features.

- **3D Features**
- **3D Display Window**
- **Live/Preview Mode**

3D Features

Overview

The Virtuoso three-dimensional features provide graphic feedback for live, preview, and off-line editing purposes. Once patched with a 3D location, the 3D Graphic window will allow you to view your current luminaire configuration in either a wireframe or a rendered three-dimensional representation. Luminaire status and cue positions appear in the 3D Graphic window as they would appear live and any events played back while the window is open are reproduced.

The 3D capability will allow you to define a venue size or import a model of your particular stage production so that show files can be programmed and edited according to the demands of your particular production. The 3D area displayed in the 3D Graphic window is referred to as a "venue."

The window provides numerous user-definable settings such as camera angles, ambient lighting, and rendered detail level. The window also contains built-in control interface features which allow luminaire parameter modification within the 3D graphic environment.

The 3D graphic display is based on a "point of origin," which is defined in the default venue or a venue that has been imported. When importing a venue, the point of origin used to create that 3D model would be the same point of origin used to base your luminaire 3D location in the patch setup. For each luminaire, an X, Y, and Z coordinate is defined, which locates the luminaire horizontally, vertically, and at a certain depth from the point of origin.

Defining a New Venue

Dimensions can be defined for a three-dimensional "venue" which is a representation of your venue or stage production as defined by 3D modeling parameters. This will be the venue size used in the 3D graphic window.

To define a new venue size:

Step 1. At File menu, select New Venue... Dimensions window will open.

Step 2. Enter height, width, and depth measurements.

Step 3. Click OK.

Importing a Venue

A graphic representation of your venue or stage production can be imported for use in the 3D Graphic window. This file, referred to as a “venue”, is stored with the show file. If a new venue is imported, it will overwrite the previous venue in the show file.

The venue can be created using most common 3D modeling software packages, then saved in one of the following formats for import:

- *.3dmf
- *.3df
- *.dxf
- *.dwg

Note: This version of console software does not support files in AutoCAD 2000 format or files which contain “3D solids” information. Drawings created in AutoCAD 2000 should be saved as an AutoCAD R14 drawing.

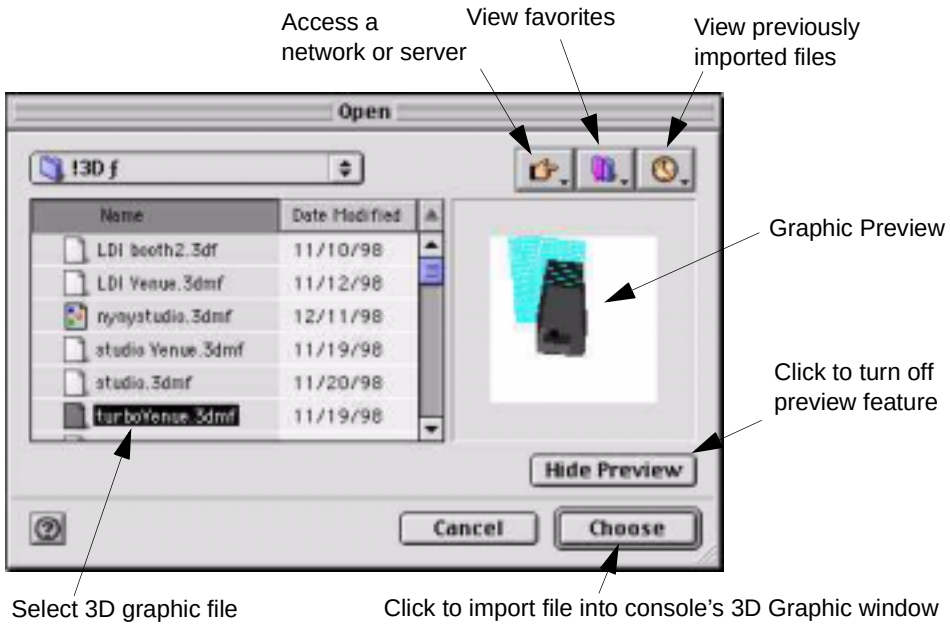
Note: When importing, it is helpful to know the point of origin on which the venue graphic is based, although it can be determined in the event this information is unavailable.

Import a venue:

Step 1. Insert Zip® disk containing your venue file into console Zip® drive.

Step 2. At File menu, select Import Venue.

Step 3. At Open window, select your 3D model file and click Choose.



3D Layer Control

The clipping process used by the Virtuoso software to manage beam intersections when they meet objects in the 3D graphic can be processor intensive and slow down performance of the 3D graphic feature. As an option to speed up performance, Virtuoso offers a method for specifying individual layers of the imported *.dwg or *.dxf graphic not to be clipped.

Note: In VectorWorks, a layer is referred to as a "class."

To specify layer(s) for non-clipping:

- In drawing package, rename layer starting with "-".
  For example, "-truss". When importing, Virtuoso will recognize this indicator and not clip beams when they meet objects in this layer.

Exporting a Scene

A scene from the 3D Graphic window can be exported in *.3dmf format for use with 3D modeling applications. The exported file will retain all of its 3D modeling parameters so that it may be altered or re-rendered as required. The export function will capture the current scene displayed in the 3D Graphic window at the time Export is selected.

Note: The Export... option will only be available if the 3D Graphic window is open.

Export a venue:

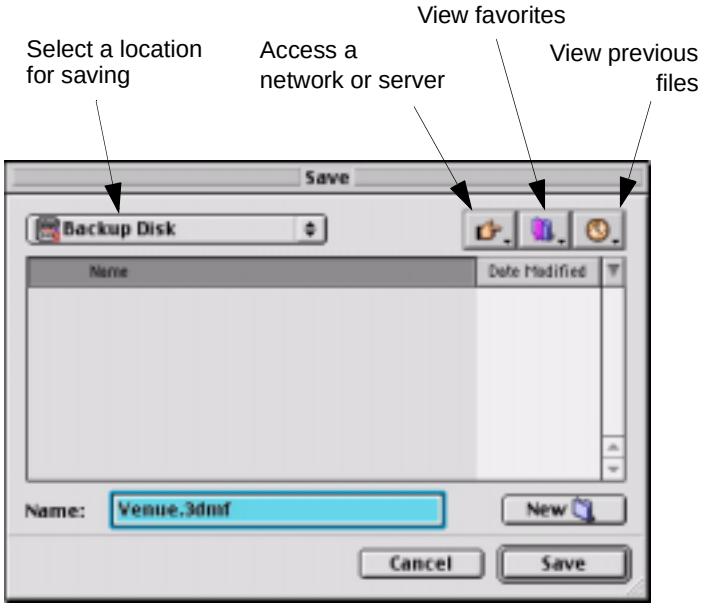
Step 1. If required, insert Zip® disk for saving your 3D venue model into console Zip® drive.

Step 2. Ensure that 3D Graphic window is open and setup as desired.

Step 3. At File menu, select Export...

Step 4. At Save window, name file and select location for storing.

Step 5. Click Save to save.



Match 3D

The Match 3D feature available in the Drawing Size window allows importing of the size and window positioning coordinates from the 3D graphic into the Plan View. (This requires that a 3D graphic has been previously imported.)

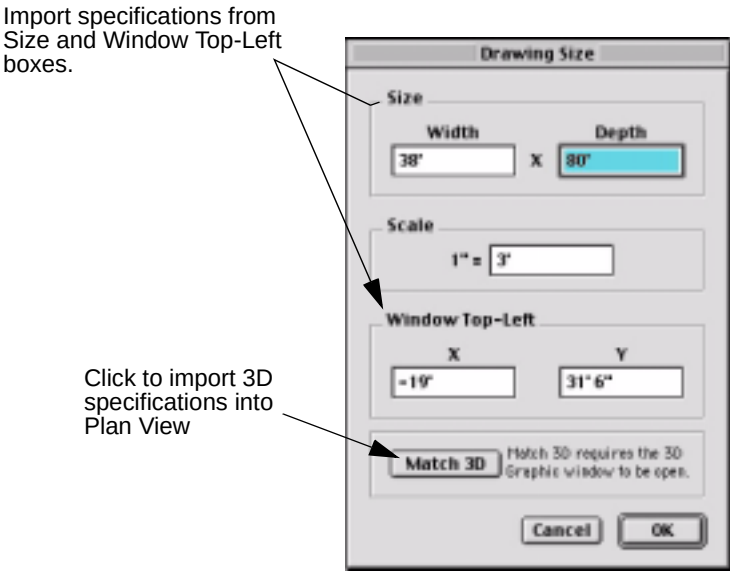
Import 3D specifications into Plan View:

Step 1. At Operation menu, select 3D Graphic to open 3D Graphic window.

Step 2. At Operation menu, select Plan View. Plan View window will open and 2D Display menu will become available on menu bar.

Step 3. At 2D Display menu, select Drawing Size. Drawing Size window will open.

Step 4. Click Match 3D to import specifications.



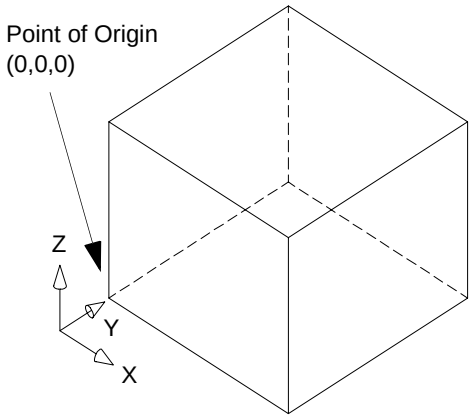
3D Display Window

Defining X, Y, Z Locations

An X, Y, and Z location for each luminaire is defined in its patch information. These coordinates can be entered at the time the luminaire is initially patched or any time later.

The coordinates are based on a point of origin (X=0, Y=0, Z=0) from which every object in your 3D graphic has been located. By defining all three locations, you can achieve an accurate representation of your production in the Graphic Display window.

- X - left/right from origin.
- Y - forward/backward from origin.
- Z - height from origin.

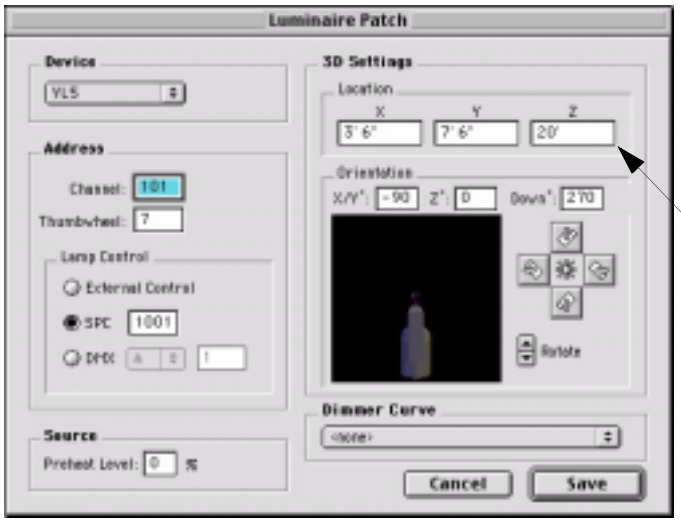


Define 3D settings:

Step 1. Open Luminaire Patch window by dropping a new luminaire icon into Plan View window or by double-clicking an existing icon. (Refer to "Patching VARI*LITE Series 300 Luminaires" on page 40.)

Step 2. Enter an X, Y, and Z value.

Note: The Z coordinate (height) sets the top position for the luminaire's hook in the 3D graphic. For example, to place a luminaire on a pipe at a height of 20'-0" to the bottom of the pipe, the luminaire should be placed at 20'-2" for accurate placement.



Define 3D settings
for X, Y, and Z location

Changing 3D Height Location

An easy method of changing the height (Z coordinate) of an object in the 3D environment is accomplished at the Plan View window.

Height can be adjusted in two ways:

- By an absolute setting. For example, all luminaires are raised to an absolute height of 10 feet.
- On a relative basis. For example, all luminaires are raised two feet from their current height (regardless whether their height is the same or different).

To change height:

Step 1. At Operation menu, select Plan View. Plan View window will open and 2D Display menu will become available on menu bar.

Step 2. At Patch menu, select Enable Editing.

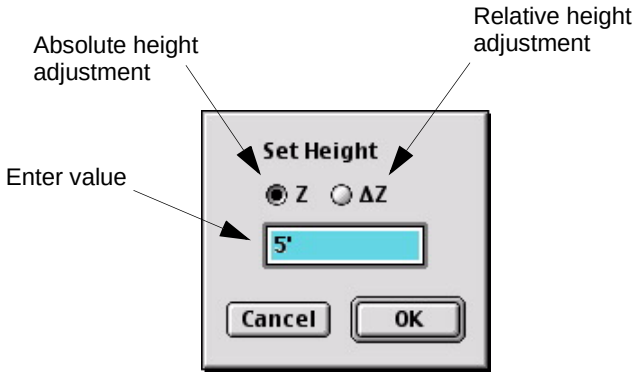
Step 3. Select required luminaire icons using pointer.

Step 4. At 2D Display menu, select Change Height. Set Height window will open.

Step 5. Do one of the following:

To change height(s) to an absolute setting, select Z. Enter value which will become new height of all selected luminaires. Click OK.

To change height(s) on a relative basis, select ΔZ. Enter value which will be added or subtracted from current height location. Click OK.

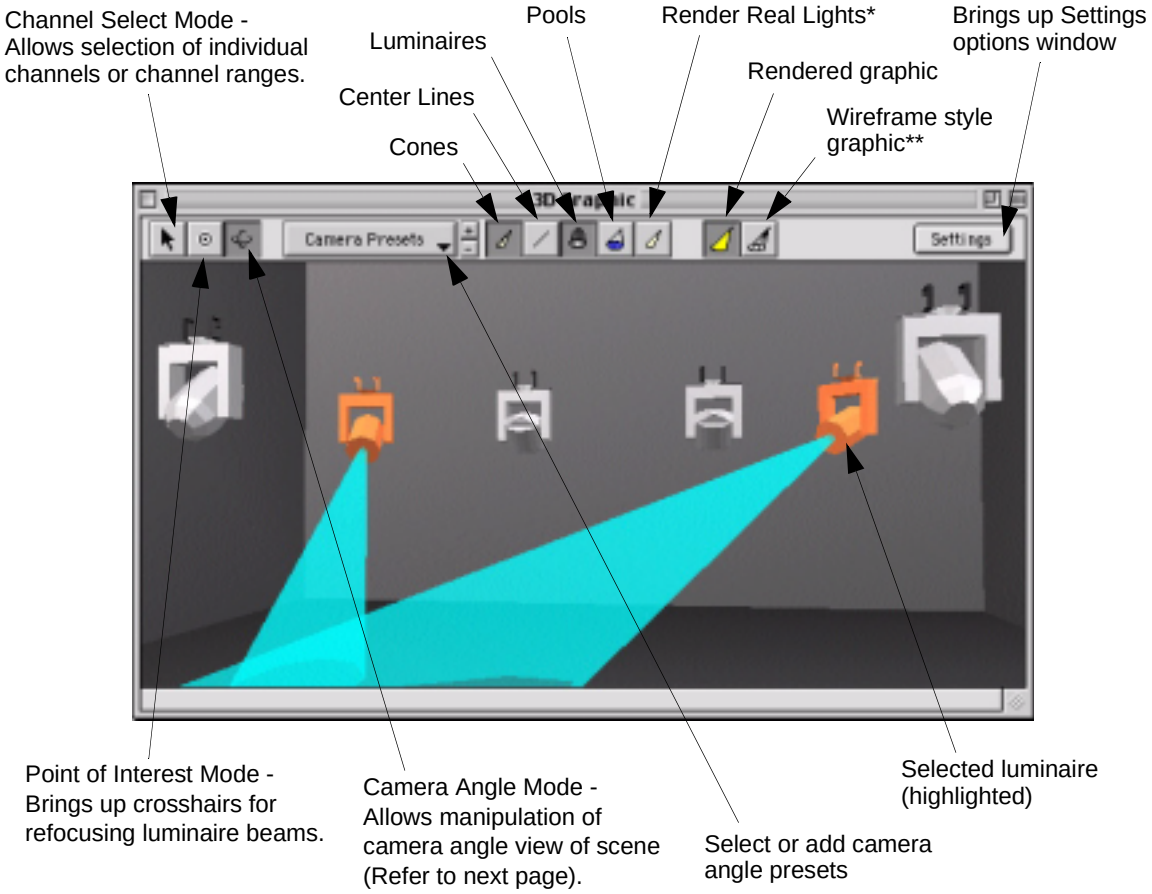


Using 3D Graphic Window

The 3D Graphic window displays your current luminaire configuration in either a wireframe or a rendered three-dimensional representation.

Note: If you open the 3D Graphic window without having defined a new venue or imported a venue, you will be asked to define the venue size. Refer to "Defining a New Venue" on page 270.

- Luminaires are focused along a focus line, which reflects the actual focus and color of the luminaire's beam. Luminaire beams can be refocused as required by indicating targets via the crosshairs.
- Changing the focus position automatically adjusts the corresponding parameter data for all luminaires that use that focus point for positional information.


Channel Select Mode - Allows selection of individual channels or channel ranges.
Luminaires
Pools
Render Real Lights*
Brings up Settings options window
Rendered graphic
Center Lines
Wireframe style graphic**
Cones
Camera Presets
Settings
Point of Interest Mode - Brings up crosshairs for refocusing luminaire beams.
Camera Angle Mode - Allows manipulation of camera angle view of scene (Refer to next page).
Select or add camera angle presets
Selected luminaire (highlighted)

* This option will greatly reduce the system's operating speed.

** This option is only a representative wireframe graphic style and will not actually speed up performance. To configure 3D window for true wireframe functionality, go to Settings options (refer to "3D Graphic Settings" on page 278).

While in **Channel Select Mode**, the following options are available:

- Click on individual luminaires to select for manual control.
- Hold down left trackpad button and drag cursor across a range of luminaires to select for manual control.

While in **Camera Angle Mode**, the following options are available:

- Hold down left trackpad button while using trackpad to move camera angle up/down or right/left. (Whichever direction you move first will lock the graphic into either the up/down or right/left mode. Release button and press again to move graphic in a different direction.)
- Hold down left trackpad button and OPTION button while using trackpad to zoom in or out.
- Hold down left trackpad button and SHIFT button while using trackpad to rotate venue.
- Hold down left trackpad button and ⌘ button to bring up camera focus crosshairs. Clicking somewhere within the graphic with these crosshairs will refocus the camera angle to that center point.

Note: One method of speeding up 3D graphic performance is to limit the number of channels (and therefore their associated luminaires) which are displayed in the 3D Graphic window at any one time. Refer to "Display Filters" on page 261.

The following "quick keys" can be used with the 3D Graphic window to adjust the camera angle:

4, 6 = left, right direction (also arrow keys)

8, 2 = up, down (also arrow keys)

7, 9 = zoom in, zoom out (also +, -)

When the **Center Lines Mode** is selected, the lines (beam representations) will change color according to intensity states. The following color code applies:

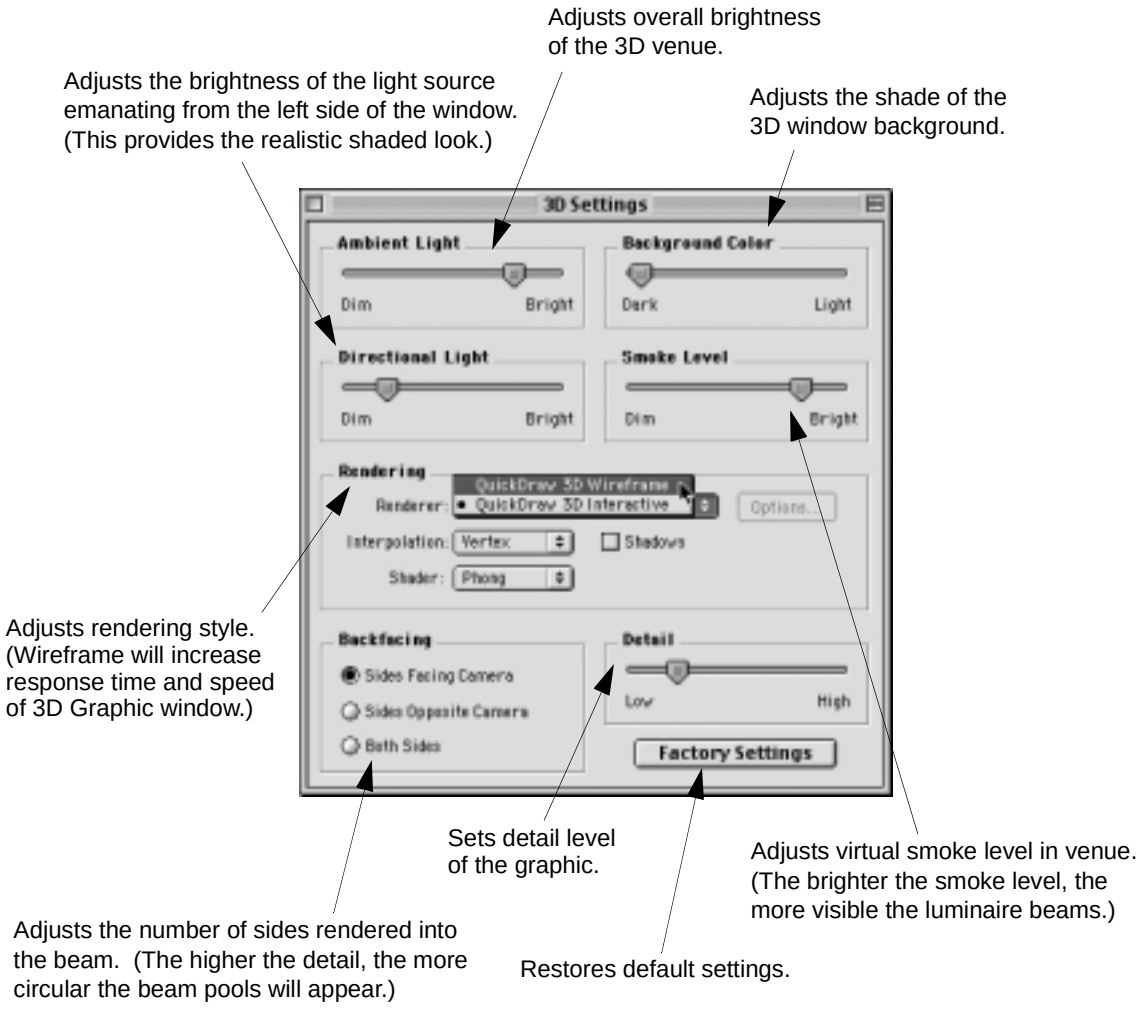
- Black - Out
- White - Full
- Red - Zero
- Green - Marked

3D Graphic Settings

Appearance aspects of the 3D graphic can be adjusted using the Settings window.

Using 3D Settings window:

- At 3D graphic window, click on Settings button. Using cursor, drag sliders to adjust settings as desired.



Note: Rendered graphics require more memory and may slow down response time depending on how many rendering options are currently active.

Live/Preview Mode

Overview

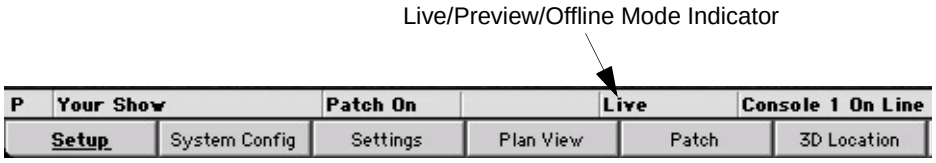
The 3D Graphic display, when used in combination with the console's Preview Mode, is a powerful tool for previewing cues and manual control moves without actually executing them on stage.

As mentioned in Chapter 1 of this manual, the console has two special modes: Live and Preview.

The Live Mode is used for live editing. While the [Live] button is selected, any manual control actions or event recalls (cues, effects, dynamic states, etc.) will be executed, in real time, on stage.

The Preview Mode is used for preview editing. While the [Preview] button is selected, any manual control actions or event recalls are stored to the appropriate luminaires, but are not executed on stage. They are, however, visible in the 3D Graphic and Luminaire Status windows.

An indication of the current mode is displayed just above the button bar at the bottom of the online display screen.



Guidelines:

- The submasters are not affected by the Live or Preview Mode selection.
- Any active events on a submaster will still execute normally when Preview is selected.
- Live/Preview modes will not be available when the system is offline.

Using Preview Mode

This feature will allow you to continue to play back a show, while setting up a new look which can then be saved as a cue. The Preview Mode would also allow you to step through the Cue Sheet in order to preview cues in the 3D Graphic or Luminaire Status windows.

To use Preview Mode:

Step 1. Press [Preview]. (Any events currently active in a submaster will continue to execute.)

Step 2. Open 3D Graphic window and/or Luminaire Status windows as required.

Step 3. Select channels.

Step 4. Make manual control changes or step through the Cue Sheet. Actions will be reflected in 3D Graphic and Luminaire Status windows.

Step 5. If required, store changes as a cue.

Step 6. Press [Live] to return to Live Mode.

CHAPTER 17.

Show Maintenance

This chapter provides instructions for managing show files, importing/exporting patch data, updating the operating system, using online diagnostics, and for entering the console's off-line diagnostic mode.

- **Data Management**
- **Updating Profiles**
- **On-Line Diagnostics**
- **Off-Line Diagnostics**

Data Management

Show File Manager

Show files can be opened, duplicated, renamed, deleted, and backed up to a Zip® disk using the Show File Manager window. Only new show files or files resident on the console's hard drive can be opened directly. In order to open a show file from either a Zip® disk or CD, it must first be copied to the console's hard drive. Once on the hard drive, any show file may be opened, modified, and then copied back to the Zip® drive for back up and storage purposes.

When the system is powered up, the Virtuoso operating system will automatically open the last show file used on the console, unless one is unavailable, in which case a new show file is automatically opened.

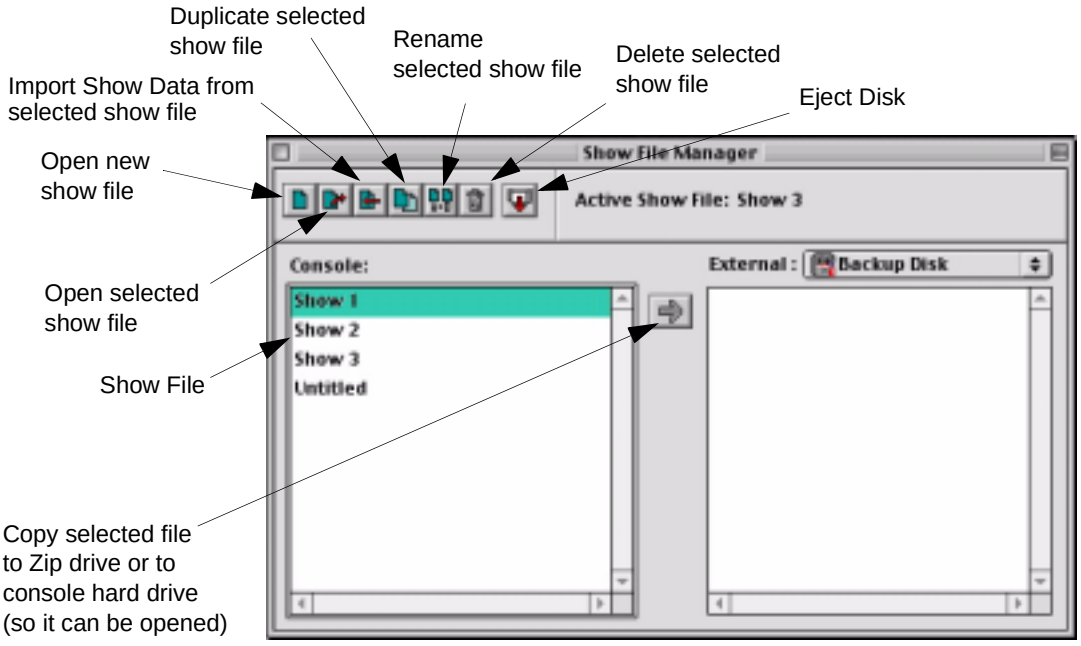
The "V" of the show file icon is colored to indicate the software version:

- V 4.0 = green
- V 3.0 = red
- V 2.0 = white

Open New Show File

Step 1. At File menu, select Show File Manager. Window will open.

Step 2. Click New icon button to launch a new show file.



Open Existing Show File

Note: To open a show file from a portable disk, you must first copy it to the console's hard drive.

Step 1. At File menu, select Show File Manager. Window will open.

Step 2. Open show file:

- For show files resident on console's hard drive (files listed in left column), select required show file and click Open icon button to launch.
- For show files stored on a portable disk (available in right column), select file and click left arrow button to copy to console's hard drive. It will now be listed in left column. Select show file and click Open icon button to launch.

Rename, Duplicate, or Delete Show File

Only show files resident on the console's hard drive can be renamed, duplicated, or deleted.

Step 1. At File menu, select Show File Manager.

Step 2. Select required show file.

Step 3. Click Rename, Duplicate, or Delete icon button as required. (Delete will require a confirmation.)

Backup Show File to Disk

Any show file resident on the console's hard drive can be copied to a Zip® disk for back up or storage.

Step 1. At File menu, select Show File Manager.

Step 2. At left column, select show file to be copied.

Step 3. At right column, select required disk and folder. Click right arrow button to copy file.

Import Show Data

Data can be imported from one show file to another.

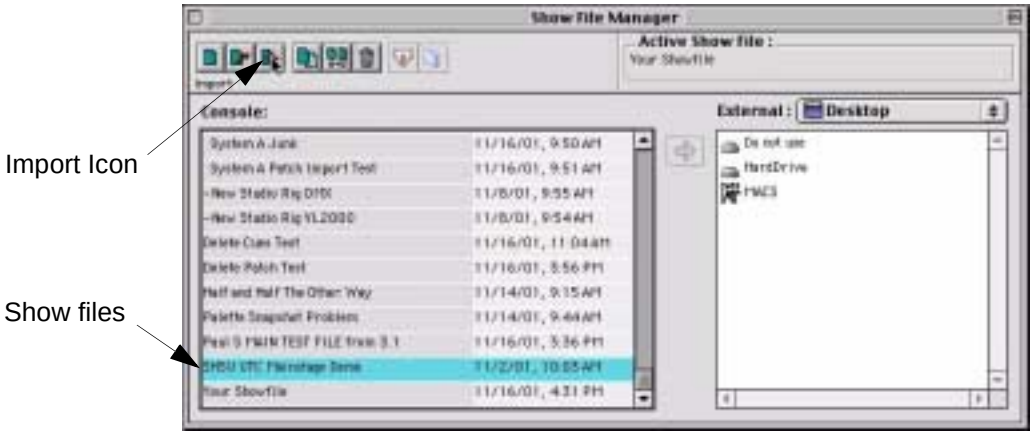
Note: Associated Cue Snapshots and Notes are imported with an Import Cue Range action. The Patch selection imports 2D background data and 3D selection imports 3D venue data.

To import show data:

Step 1. Open a show file (to import data *into*).

Step 2. At File menu, select Show File Manager.

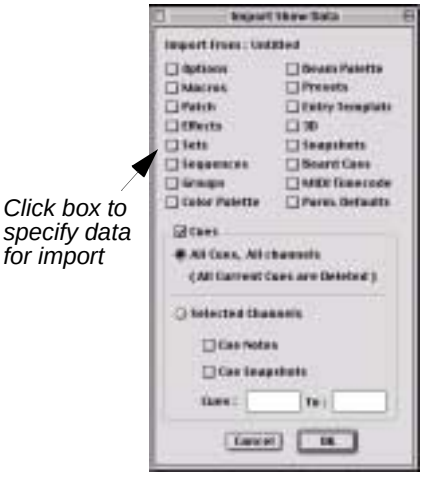
Step 3. Select required show file to import *from.*



Step 4. Click Import icon. Import Show Data window will open.

Note: If there is no 2D or 3D venue data, then only the Patch and Camera presets will be imported.

Step 5. Select data you wish to import by clicking boxes. Click OK. (If selecting Cues or Channels, see explanation below.)



Cue Import

This feature allows the import of cue data from another show file for channels of the same type and same control channel. This is useful to recover cues from a backup file in the event they have been accidentally stored over. When starting a new show file, it can also be useful to import either all cues for all channels or just some of the cues for the selected channels.

After Cue Import

If cues have been built using Presets, the Cue Data and Status windows will show the source Preset ID. If Presets were not imported, there will be no Preset data present/available for the luminaires. In this case, there may be a log message indicating that channels could not recall data because there was no Preset data. The error message in the log will be: "device", channel XXXX, cue references non-existent Preset ID XX (where device indicates Luminaire, NIFDMX, DXDMX or UDM).

Importing Presets will delete existing Preset data in the show file and replace it with the imported data. Instead, it may be an advantage to recreate the Presets to avoid losing the current data.

With the All Cues, All Channels option selected, all data will be imported for the patched channels. If the type does not match, then data will be deleted. This option disregards channel selection and any existing cue data will subsequently be lost. Preset data may also be required.

With Selected Channels selected, only the specified cue or range of cues will be imported for the selected channels. It is also possible to bring in Cue Notes and Cue Snapshots that are applied to those cues. Preset data may also be required.

Note: Cue numbers, effects, etc. loaded by an imported Cue Snapshot may not exist in the current show file.

If importing Effects, where the Sequence steps are made up of cues, there may be issues if the cue data is different or if the cue number does not exist. If the data does not exist, the error message in the log will be: Error: "Device", attempted recall of invalid\10 (where device indicates Luminaire, NIFDMX, DXDMX or UDM).

Importing Palette Data

Importing beam and color palettes for DMX fixtures (using "Import Show Data" on page 284) in software version 3.0 could lead to corrupted data if the patch was not the same. Likewise, if palette data was imported prior to creating a patch, corrupted data could occur. This corrupted data would result in incorrect values and parameters when recalling some beam and color palette data. These corrupted palette entries could not be deleted or edited in V 3.0.

This problem has been corrected and, in addition, commands have been added to repair bad data in older palettes. (Any occurrence of 'Unk' in the data section of the palette windows is considered bad data.). These commands are Cleanup Palette, which removes "Unk" (unknown) fixture type data, and Revert to Defaults, which deletes existing data and restores from profile (if present) for the selected luminaire type. The correction is performed independently for the selected palette, so if cleaning both beam and color, commands should be performed on both.

Cleanup Palette

This command can be used to remove any occurrences of "Unk" fixture types in the palette window which may have happened in V 3.0 during a data import. (See screen capture on next page.)

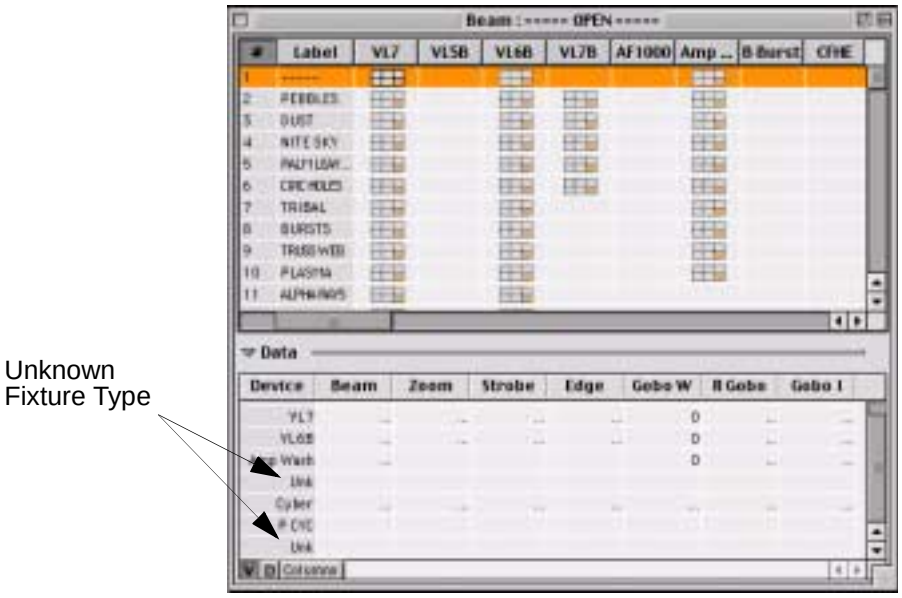
To cleanup a palette:

Step 1. To enable Cleanup Palette command, ensure that either palette data window is open and at top level (in front of all other windows).

Step 2. At Data menu, select Cleanup Palette. This will bring up a confirmation alert.

Step 3. At alert window, click Cleanup. This action will remove "Unk" fixture types.

Palette data may be corrupted during an import action in SV3.0. This corrupted data is listed as 'Unk' in the palette windows.
Cancel
Cleanup



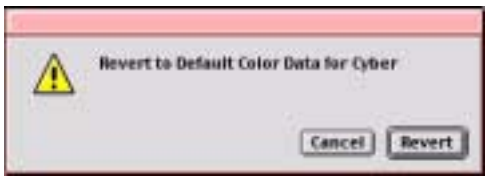
Revert to Defaults

This command can be used to delete bad palette data and duplicate fixture types (e.g. multiple VL2C luminaires). This will restore defaults from the profile (if present) for the selected fixture. (See screen captures on next page.)

To revert to defaults:

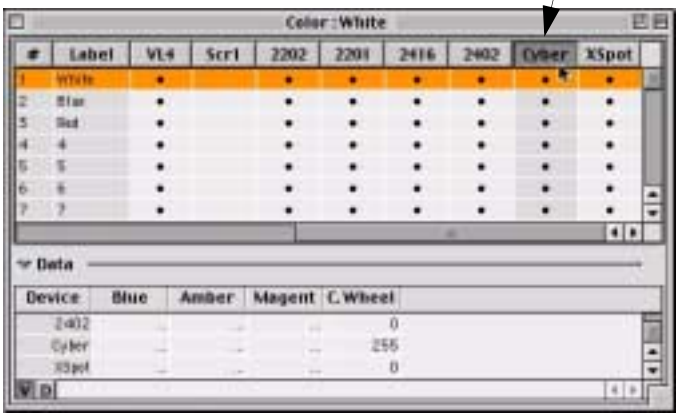
Step 1. To enable Revert to Defaults command, ensure that either palette data window is open and at top level (in front of all other windows) and a fixture type is selected in palette window.

Step 2. At Data menu, select Revert to Defaults. This will bring up a confirmation alert.

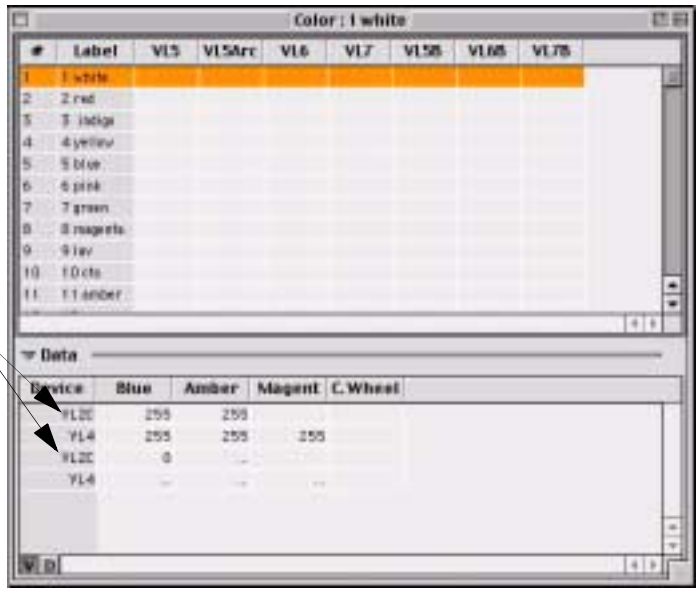


Step 3. At alert window, click Revert. (Palette data may need to be recreated.)

Selected Fixture



Multiple
Fixture Types



Save A Copy

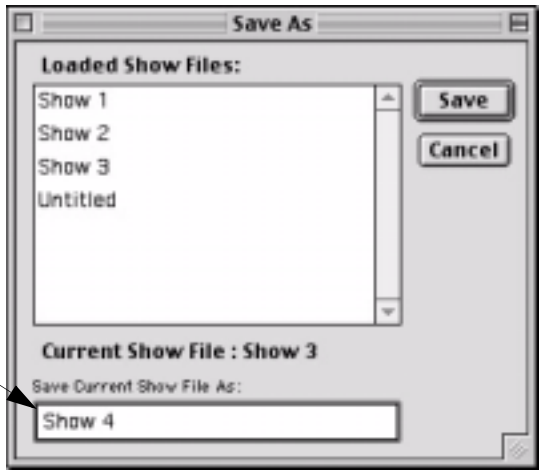
A copy of your show file can be saved to the hard drive.

To save a copy:

Step 1. At File menu, select Save A Copy... Save As window will open.

Step 2. Name your file or use default name.

Step 3. Click Save.



Export Patch

Patch data can be exported as text information from a show file for import into other show files or programs.

To export patch data:

Step 1. At Patch menu, select Export Patch... File management window will open.

Step 2. Select a location and name your patch file.

Step 3. Click Save.

Import Patch

Patch data exported from a show file may be imported into a different show file. The patch data file can be resident on the hard drive or portable disk.

Note: The Import Patch option will only be available when patch Enable Editing is selected.

To import patch data:

Step 1. At Patch menu, select Enable Editing.

Step 2. At Patch menu, select Import Patch... File management window will open.

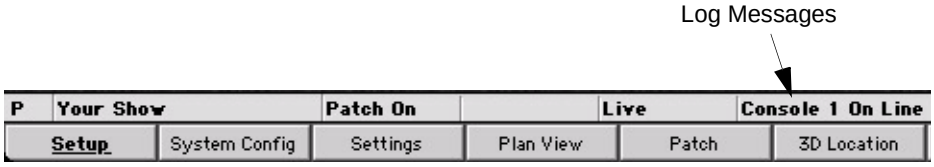
Step 3. Locate and select required file.

Step 4. Click Choose.

Note: For instructions on importing a 3D venue, refer to "Importing a Venue" on page 271.

Console Log

A console log containing information such as calibration failure detections, programming data, cue repair summaries, and save reports is available for each console. Messages posted in the console's Log Message box are the same messages collected in this log.

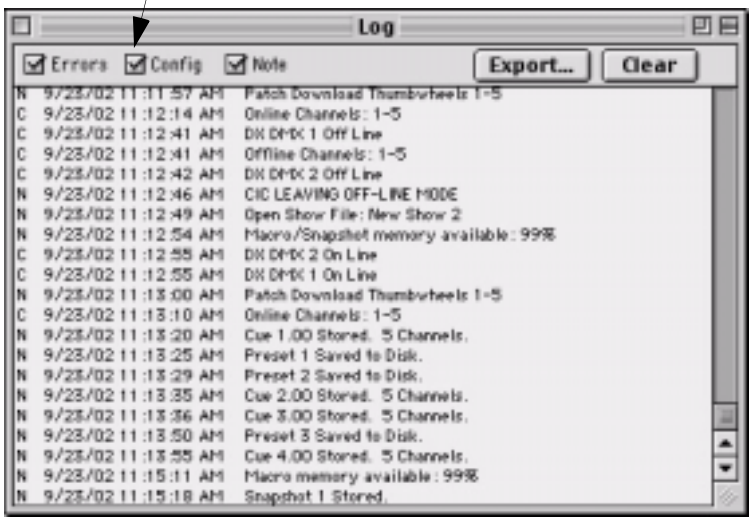


Note: The log has a limit of 1Mb. After it is full, messages will no longer be logged, although they will still appear in the information bar as they occur. Press Clear to empty log so that new messages will be displayed.

Using Log window:

- At Setup menu, select Log.
- Click check boxes to display desired information.
- Press Clear to clear all messages.

Specifies which types of information will be displayed.


Log
Errors
Config
Note
Export...
Clear
C 9/23/02 11:12:14 AM Online Channels: 1-5
C 9/23/02 11:12:41 AM DX DMX 1 Off Line
C 9/23/02 11:12:41 AM Offline Channels: 1-5
C 9/23/02 11:12:42 AM DX DMX 2 Off Line
N 9/23/02 11:12:46 AM CIC LEAVING OFF-LINE MODE
N 9/23/02 11:12:49 AM Open Show File: New Show 2
N 9/23/02 11:12:54 AM Macro/Snapshot memory available: 99%
C 9/23/02 11:12:55 AM DX DMX 2 On Line
C 9/23/02 11:12:55 AM DX DMX 1 On Line
N 9/23/02 11:13:00 AM Patch Download Thumbwheels 1-5
C 9/23/02 11:13:10 AM Online Channels: 1-5
N 9/23/02 11:13:20 AM Cue 1.00 Stored. 5 Channels.
N 9/23/02 11:13:25 AM Preset 1 Saved to Disk.
N 9/23/02 11:13:29 AM Preset 2 Saved to Disk.
N 9/23/02 11:13:35 AM Cue 2.00 Stored. 5 Channels.
N 9/23/02 11:13:36 AM Cue 3.00 Stored. 5 Channels.
N 9/23/02 11:13:50 AM Preset 3 Saved to Disk.
N 9/23/02 11:13:55 AM Cue 4.00 Stored. 5 Channels.
N 9/23/02 11:15:11 AM Macro memory available: 99%
N 9/23/02 11:15:18 AM Snapshot 1 Stored.

Note: In some cases, the console's log file can become corrupted and "hang up" the processor. (A blank log window with a continuously spinning cursor was a symptom of this issue.) If this occurs, hold down SHIFT while pressing Clear in the Log window. The log will clear and the Log window will close.

Printing

The Virtuoso application includes a print driver to accommodate an Epson® Stylus Color InkJet printer. However, any Macintosh-compatible printer can be connected and used to print data from these windows:

- Cue Sheet
- Cue Data
- Color Palette Data*
- Patch
- Macros*
- Console Log
- Board Cue Sheet*
- Preset Data*
- Beam Palette Data*
- Plan View
- Snapshots
- 3D Location

* Allows extra print setup options. See below.

Important Notes

- In order to compact the information, the software will reduce all text font sizes to 7 point.
- The Plan View will be reduced so that it always prints on a single page.

Print Setup

The Print window dialogue is a standard Macintosh interface which allows you to configure the printing options. In the case of the special windows noted above which have two sections, the Virtuoso software adds four extra options. (Depending on the printer, these options may be displayed in a slightly different manner in the Print window but they will always be available.) These options are: Summary, Current Data, All Data, and Data "From...To." (Refer to Print window graphic on next page.)

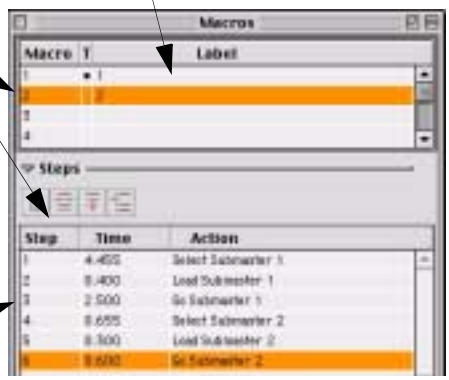
For Example:

Summary -
Would print a list of all Macros in order, but no Step data would be included.

All Data -
Would print the Macro number and all Step data for every Macro (one per page).

Data "From...To" -
Would print all data for the specified range.

Current Data -
Would print the Step data for the currently selected Macro.



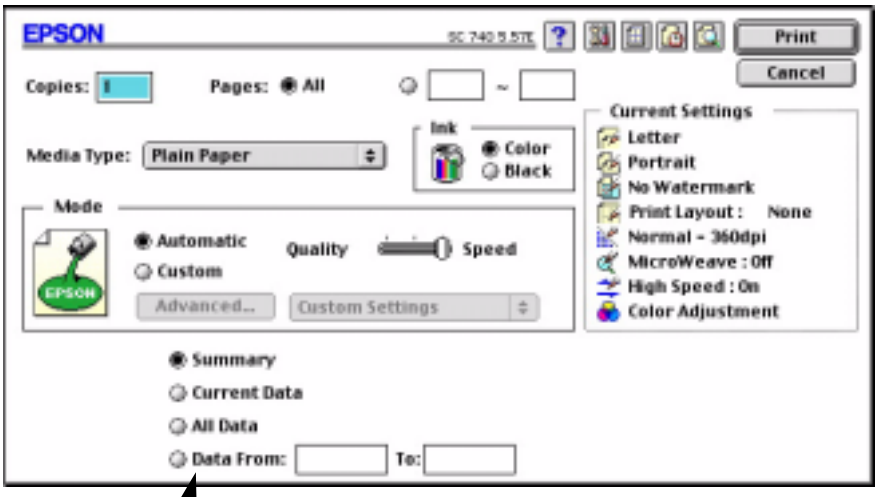
To print:

Step 1. Ensure that window you wish to print data from is open and currently active.

Step 2. At File menu, select Print...

Step 3. At Print window, configure options. If printing from a special Virtuoso window (see previous page), select which data you wish to print.

Step 4. Click Print.

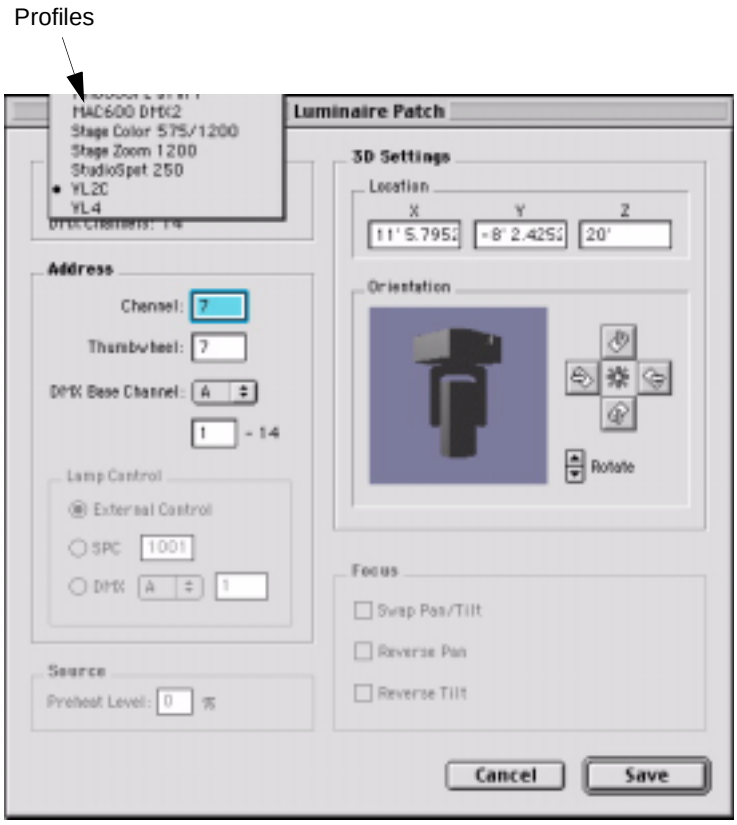


Special Virtuoso window options. These are available for specific windows (refer to previous page).

Updating Profiles

Overview

As mentioned in the patch instructions covered in **Chapter 3**, the Virtuoso console utilizes a resource called a Profile to properly map control of luminaires. The Profiles are accessed in the Luminaire Patch windows. (Refer to "Patch" on page 32.)



The Profiles are stored in a Virtuoso system folder which is accessed each time a new show file is opened. It is possible to import new Profiles and to update older show files with them if desired. When a new show file is opened, it will automatically contain all Profiles currently resident in the Profiles folder.

Note: For instructions on obtaining additional profiles, refer to "Obtaining Additional DMX Profiles" on page 2.

Importing Profiles

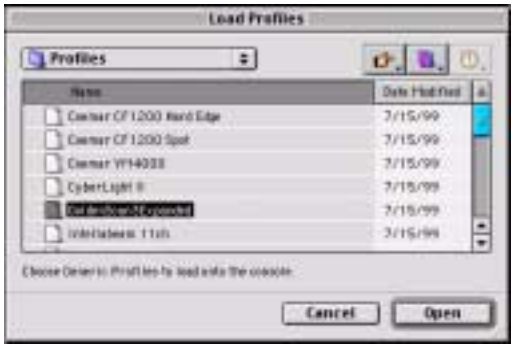
Before Profiles will be available to show files, they must be loaded into the console Profile folder.

Import Profiles:

Step 1. Insert Zip disk containing new Profile(s) into console Zip drive.

Step 2. At File menu, select Import Profiles... Load Profiles window will open.

Step 3. Locate Profiles on your Zip disk, select, and click Open. The Profile(s) will be copied to the console Profile folder.



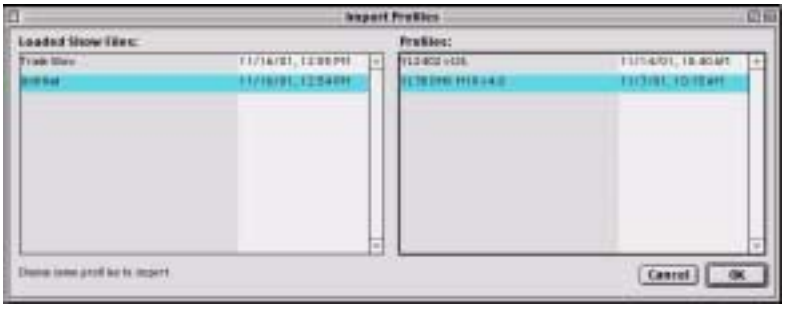
Import Profiles From Show

The Import Profiles from Show option allows importing profiles from a show file to the Virtuoso Profile folder.

To import a profile from a show file:

Step 1. At File menu, select Import Profiles from Show. Import Profiles window will open.

Step 2. Click on desired show file. Locate Profile at right, select, and click OK. The Profile will be copied to the Virtuoso Profile folder.



Updating Show File Profiles

In order to protect existing show files, the console does not automatically update them with any newly imported Profiles. If you desire to update an existing show file with a new profile(s), this can be done using the Update Profiles function.

Note: To ensure that new profiles are properly installed, reset NIF and/or UDM units after profiles are updated.

Update Profiles:

Step 1. At File menu, select Show File Manager.

Step 2. Select show file to open and click on Open icon.

Step 3. At File menu, select Update Profiles. Profiles will be compared. If any are significantly different, a warning window will appear. Click Update to replace old version of Profile (this will destroy show data in some cases). If you choose not to update, click Don't Update.

Step 4. Restart NIF and/or UDM units as required.

On-Line Diagnostics

DMX Channel Tests

The DMX Diagnostics available in the DMX Setup window can be used to troubleshoot DMX patch problems. The diagnostic function allows you to send values directly to a specific DMX channel, bypassing all other console controls.

Perform DMX Diagnostics:

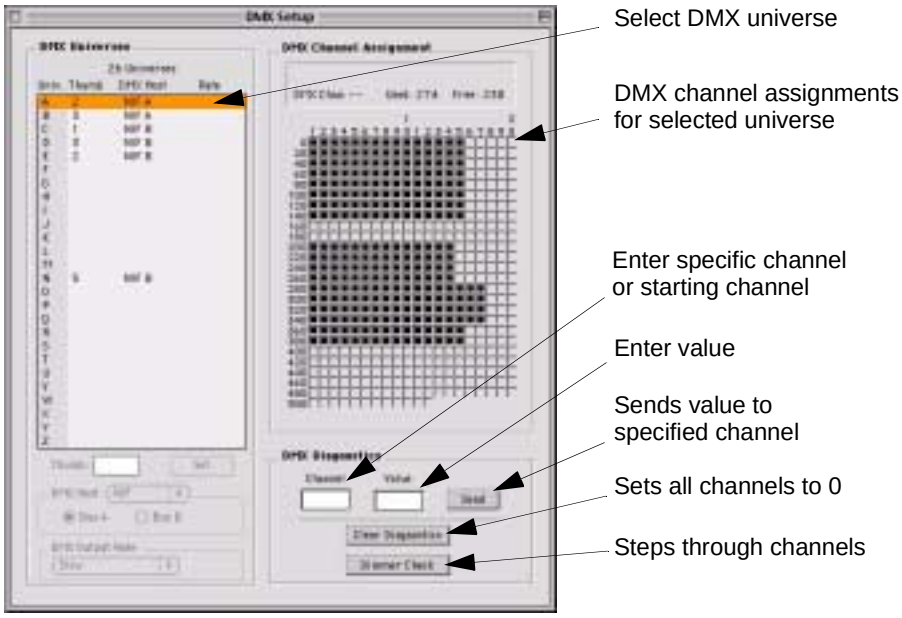
Step 1. At Patch or Setup menu, select DMX Setup. DMX Setup window will open.

Step 2. To see channel assignment for a DMX universe, use cursor to select universe (A thru Z). Channel assignments associated with that universe will appear in DMX Channel Assignment grid.

Step 3. To test a specific channel, at DMX Diagnostics section of window, enter channel number in Channel field and a value (for example, 100) in Value field. Click Send to send value directly to channel. Watch for appropriate response in fixture.

Step 4. To step through channels, enter starting channel in Channel field and a value. Click Dimmer Check and verify response in fixture. Click Dimmer Check again to check next channel (channel number in Channel field will increment by one each time).

Step 5. Click Clear Diagnostics to set all channels back to 0 value.


Select DMX universe
DMX channel assignments for selected universe
Enter specific channel or starting channel
Enter value
Sends value to specified channel
Sets all channels to 0
Steps through channels

Error Log

An error log for each device is displayed in its Device Info window.

To access Device Info window:

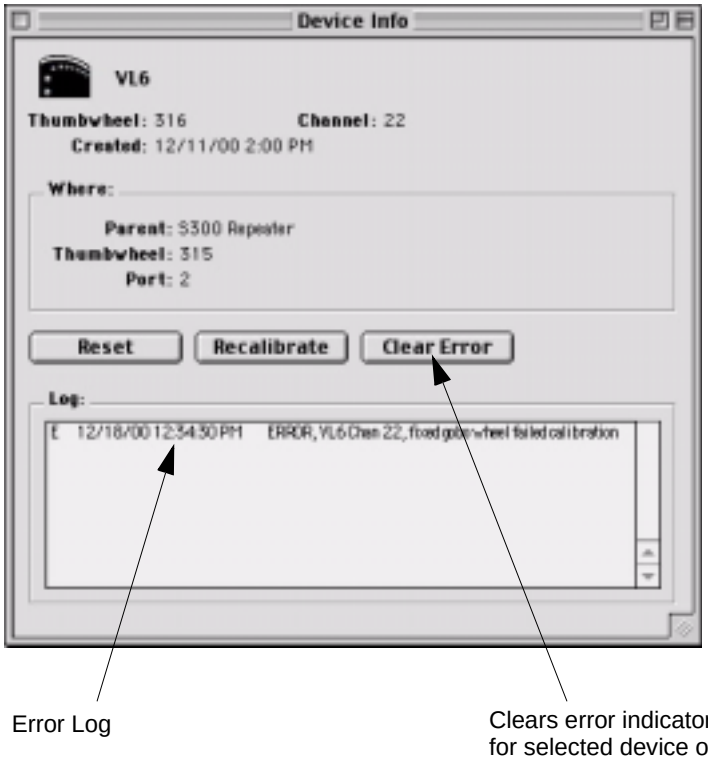
- At System Configuration window, double-click on a device's icon. (Refer to "System Configuration Window" on page 29.)

To clear error indicators for selected device:

- At Device Info window for specified device, click Clear Error.

To clear all error indicators:

- At Special menu, select Clear Status Errors.



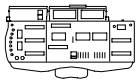
Off-Line Diagnostics

Overview

Virtuoso off-line diagnostics allow you to test the console hardware in order to identify faulty components. These tests will not affect any of the data in your luminaires.

CAUTION: These diagnostics are not intended to be used during performance conditions as they will interrupt system operation.

Diagnostic Mode Operation (Virtuoso Console)



Switch Diagnostics

The switch tests verify the operation of all switches (or buttons) on the console. When a button is pressed while in diagnostic mode, it will register in one of the displays (depending on where the button is located).

Display Diagnostics

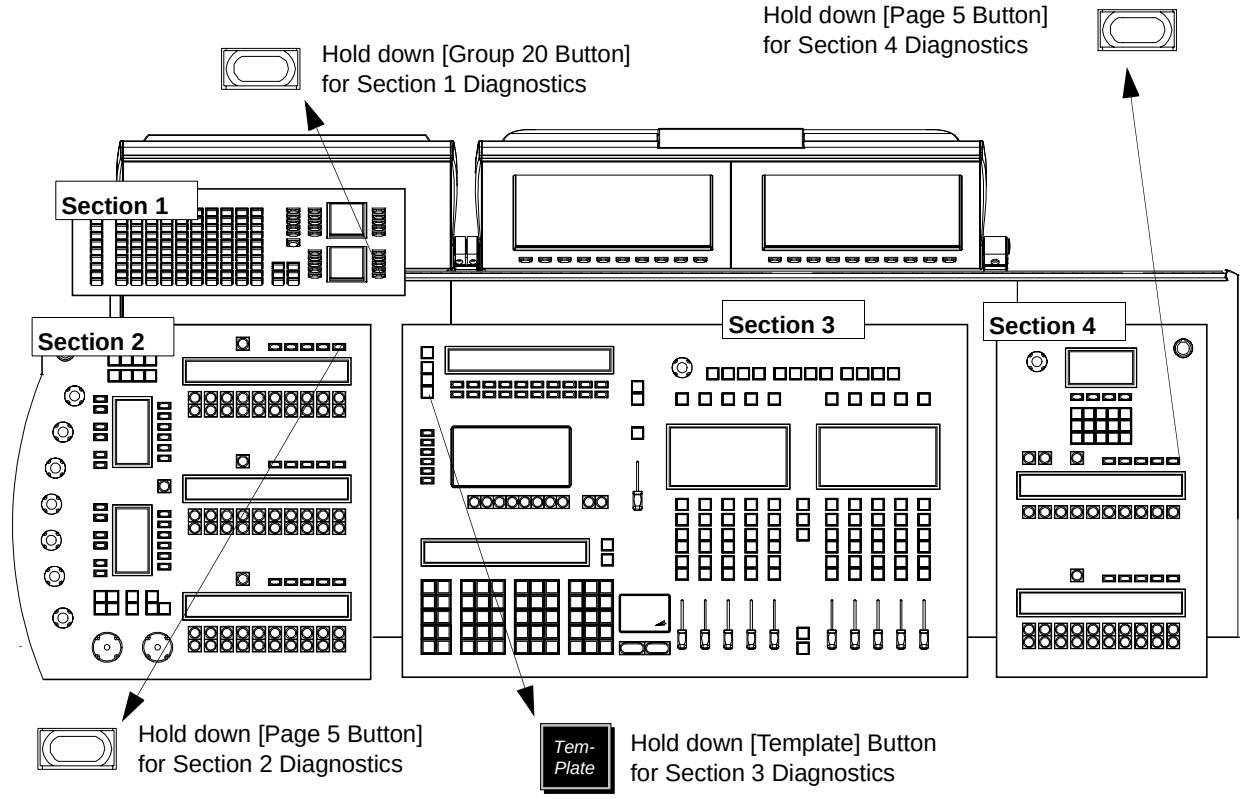
The display tests verify the operation of all display screens, including the touch screen. When a display test is chosen, the corresponding display will illuminate to reveal any malfunctions. For the touch screen, touching an area will illuminate it to reveal any malfunctions.

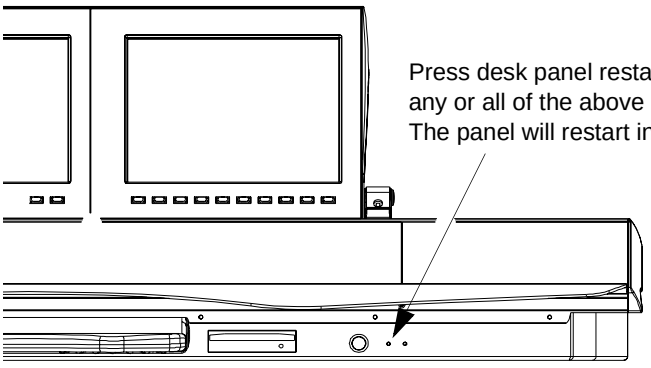
Fader and Encoder Diagnostics

The fader and encoder tests verify operation of all faders and encoder knobs. While in diagnostic mode, moving any of the faders or encoders will register their output numerically in the display as a changing value which will increment and decrement through the component's entire range.

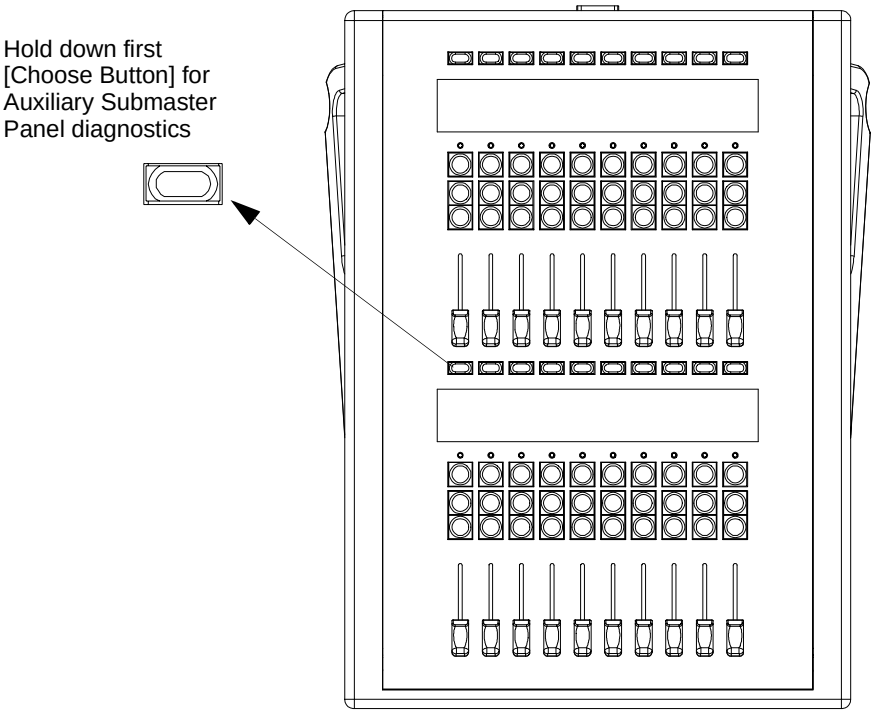
The main desk has been divided into four diagnostic sections, which can be restarted in the off-line diagnostic mode individually, in combination, or all at the same time. A specific button has been designated for each section that, when held down while pressing the panel reset button, will reboot the associated panel section in the off-line diagnostic mode. You must hold down all the buttons for the panels you wish to reboot in diagnostic mode as they cannot be "piled on" individually. (Press panels restart button by itself to exit diagnostic mode.)

The four sections and their associated buttons are as follows:

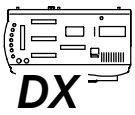



Press desk panel restart button while holding down
any or all of the above diagnostic mode buttons.
The panel will restart in off-line diagnostic mode.

The auxiliary submasters panel can also be placed in diagnostic mode. As with the main desk, hold down the appropriate button while pressing the panel reset button.


Hold down first
[Choose Button] for
Auxiliary Submaster
Panel diagnostics

Diagnostic Mode Operation (Virtuoso DX Console)



Once the console is in diagnostic mode, the top select display will list all test options and the submasters display window will provide a graphic of the console front panel in order to register button presses for the purpose of testing. The diagnostic mode provides the following tests and functions:

- **Display Test** - illuminates all front panel displays and touch screen to an equal intensity, and allows stepping through four levels for testing. The four level are as follows:

  1. Bright
  2. Dimmed
  3. Mid
  4. Out

- **SRAM Test** - checks console RAM and reports any problems.
- **LEDs On** - turns on all front panel button LEDs.
- **Switch Latch** - toggles LED testing function so that pressing buttons either turns LEDs on or off. (Either way, any button presses will be highlighted in the console graphic in the Submasters display.)
- **FireWire Test** - tests FireWire connection and reports any problems.
- **Erase Flash** - erases console flash.
- **Reset** - returns console to normal state of operation.

Use the following procedures and guideline to test console functions.

To power up console in diagnostic mode:

Step 1. At rear of console, turn off power switch.

Step 2. Press and hold [Reset] (top left corner of console), while turning on power switch. Console will power up in diagnostic mode.

To use diagnostics:

- To execute a test or function, press [Bank/Function] along with corresponding bank button of test (select buttons 1-7).
- For Display Test, press any key five times to cycle through intensity levels and return to starting state.
- While in diagnostic mode, turning encoders and moving faders will register values in Submasters display window.

CHAPTER 18.

Show Control by External Devices

This chapter provides instructions for controlling shows by use of an external MIDI/ SMPTE or switch closure trigger device.

- **Concepts**
- **MIDI Notes**
- **MIDI/SMPTE Timecode**

Concepts

About MIDI/SMPTE

The console is able to accept two forms of external control:

- MIDI Notes
- Timecode (includes both MIDI and SMPTE)

MIDI (Musical Instrument Digital Interface) is a communication protocol that allows electronic musical instruments to interact with each other. Much in the same way that two computers communicate via modems, two electronic instruments can communicate via MIDI. At its most basic structure, MIDI information tells a synthesizer when to start and stop playing a specific note. Since the basis for MIDI communication is the byte, MIDI can also be used as an interface between musical instruments and computers, or in this case a computer-based lighting console. In the same way that MIDI can command a note to start or stop, Virtuoso console functions such as board cue execution can be initiated by a connected MIDI-compatible device. MIDI Notes are mapped console macros while MIDI timecode is recorded as a script.

SMPTE timecode is a communication protocol standard set forth by the Society of Motion Picture and Television Engineers for handling of audio which is associated with motion images. This is essentially the same as MIDI timecode except that it is analog while MIDI timecode is digital. However, once either of these signals enters the console they are stored as digital timecode scripts.

Note: Only one form of timecode - either MIDI or SMPTE - can be input at one time.

Input Options

MIDI In/Thru/Out

Standard MIDI In, Thru, and Out connectors are provided at the console's rear panel for support of any standard MIDI input device.

The associated MIDI LEDs will light when MIDI data is traveling through the port, however, the LED merely indicates the presence of MIDI traffic, *not* that the traffic is necessarily *valid* MIDI traffic.

Note: MIDI Out will not output MIDI timecode.

SMPTE Input

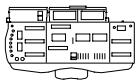
A standard female XLR connector is provided at the console's rear panel for input of SMPTE timecode. The input is balanced differential with a 10k ohm input impedance. The XLR connector is wired as follows:

Pin	Wire
1	Ground
2	In +
3	In -

Note: When connecting a single-ended SMPTE source (such as RCA or 1/4" phone jack), the "hot" lead is connected to XLR Pin 2 and the "ground" is connected to pins 1 and 3. Pins 1 and 3 must be connected together.

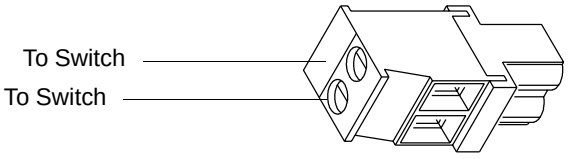
The associated SMPTE green LED will be *lit* when valid SMPTE data is being received. The LED will *flash* when either the SMPTE data is not valid or the console cannot lock in on the signal.

Switch Closure Trigger Input (Virtuoso Console)

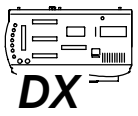


The switch closure trigger port is wired to the Board Control [Go] button. Closing the switch by any compatible device is the equivalent of pressing this button. The triggering device can be any device that will supply the "short", such as a hand-held switch, a relay, a footswitch, etc.

The Virtuoso switch closure trigger port will accept a Molex® terminal block which is available from Vari-Lite (VL Part Number: 52.6567.0001).

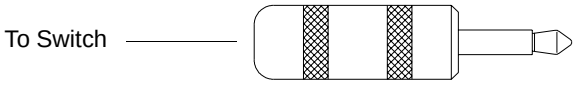


Switch Closure Trigger Input (Virtuoso DX Console)



The switch closure trigger port is wired to the Board Control [Go] button. Closing the switch by any compatible device is the equivalent of pressing this button. The triggering device can be any device that will supply the "short", such as a hand-held switch, a relay, a footswitch, etc.

The Virtuoso DX switch closure trigger port will accept a 2-conductor mini mono phone plug which can be purchased from Vari-Lite or other electronics outlets:



Vari-Lite Part No.	Accessory
52.6616.0780	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG

Manufacturer	Part No.	Accessory
Switchcraft	780	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG
Digi-Key	SC1057-ND	MINI PHONE .141" MONO SHIELDED 2-COND SOLDER PLUG

MIDI Notes

Note Mapping

The console accepts MIDI note messages. Each MIDI note is mapped to a single macro for the first 127 macros. When the console receives the note, it will execute the corresponding macro.

Table 18-1: MIDI Note Mapping

MIDI Note	Macro No.	MIDI Note	Macro No.
C#-2	1	F0	29
D-2	2	F#0	30
Eb-2	3	G0	31
E-2	4	G#0	32
F-2	5	A0	33
F#-2	6	Bb0	34
G-2	7	B0	35
G#-2	8	C1	36
A-2	9	C#1	37
Bb-2	10	D1	38
B-2	11	Eb1	39
C-1	12	E1	40
C#-1	13	F1	41
D-1	14	F#1	42
Eb-1	15	G1	43
E-1	16	G#1	44
F-1	17	A1	45
F#-1	18	Bb1	46
G-1	19	B1	47
G#-1	20	C2	48
A-1	21	C#2	49
Bb-1	22	D2	50
B-1	23	Eb2	51
C0	24	E2	52
C#0	25	F2	53
D0	26	F#2	54
Eb0	27	G2	55
E0	28	G#2	56

Table 18-1: MIDI Note Mapping (Continued)

MIDI Note	Macro No.	MIDI Note	Macro No.
A2	57	A5	93
Bb2	58	Bb5	94
B2	59	B5	95
C3	60	C6	96
C#3	61	C#6	97
D3	62	D6	98
Eb3	63	Eb6	99
E3	64	E6	100
F3	65	F6	101
F#3	66	F#6	102
G3	67	G6	103
G#3	68	G#6	104
A3	69	A7	105
Bb3	70	Bb7	106
B3	71	B7	107
C4	72	C7	108
C#4	73	C#7	109
D4	74	D7	110
Eb4	75	Eb7	111
E4	76	E7	112
F4	77	F7	113
F#4	78	F#7	114
G4	79	G7	115
G#4	80	G#7	116
A4	81	A8	117
Bb4	82	Bb8	118
B4	83	B8	119
C5	84	C8	120
C#5	85	C#8	121
D5	86	D8	122
Eb5	87	Eb8	123
E5	88	E8	124
F5	89	F8	125
F#5	90	F#8	126
G5	91	G8	127
G#5	92		

MIDI/SMPTE Timecode

Overview

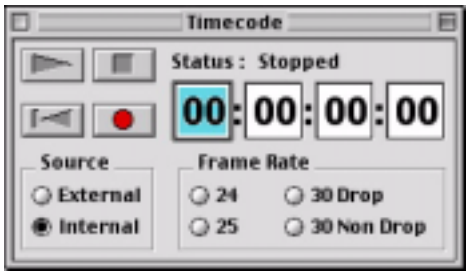
The console will also accept MIDI/SMPTE timecode messages, which can be generated internally or from an external source. The messages generated by the internal timecode generator can be run independently or in sync with an external timecode. If the external timecode source drops out, the internally synchronized timecode allows the MIDI operation to continue. When the internal clock is selected, any external timecode will be ignored.

Note: Only one form of timecode - either MIDI or SMPTE - can be input at one time. MIDI Out will not output MIDI timecode.

Timecode is programmed and played back using the Timecode window. During a record operation, the console will map all appropriate front panel actions to the registered timecode as those events take place. Unless specified otherwise, the internal clock will begin counting at 00:00:00:00.

Timecode has four fields, 00:00:00:00 (or AA:BB:CC:DD):

- AA - hours (00-24)
- BB = minutes (00 through 59)
- CC = seconds (00 through 59)
- DD - frames (00 through 29)



Synchronizing Protocol

To prevent unexpected interruptions in the MIDI execution of events, a synchronizing protocol is built into the system. This feature can be turned off and on using the Timecode Autoswitch checkbox at the Settings window (refer to "Settings Window" on page 258). During normal operations, the system will wait for each timecode frame before performing the required calculations for each time period. If the incoming timecode arrives approximately on time, and the frame number agrees with the expected time from the system internal clock, the system remains synchronized with the external timecode. If the system begins receiving frames which are outside of the above timing tolerance, the following occurs:

- If the Timecode Autoswitch is enabled and the system is synchronized awaiting the next frame, and the expected frame is not received within 2 frames, the board will begin running on its internal time clock.

- If the Timecode Autoswitch is enabled, the system will continue executing events in the normal sequence using its internal time clock, until the system can resync. At that point, the external time clock will take over again and the internal clock will sync to those values.
- If the Timecode Autoswitch is disabled, the system will stop executing events until timecode is resynced. After resyncing, execution of events will resume.

Recording

Timecode is recorded using the Timecode window. The timecode and corresponding event steps are stored in a Timecode Script which can be viewed and edited using the Timecode Scripts window (refer to next page). Unless a different script number is selected in the window, the script will be stored as Number 1 by default. To record timecode into a script other than 1, select its number at the Timecode Scripts window.

Record Timecode:

Step 1. At Operation menu, select Time Code. Timecode window will open.

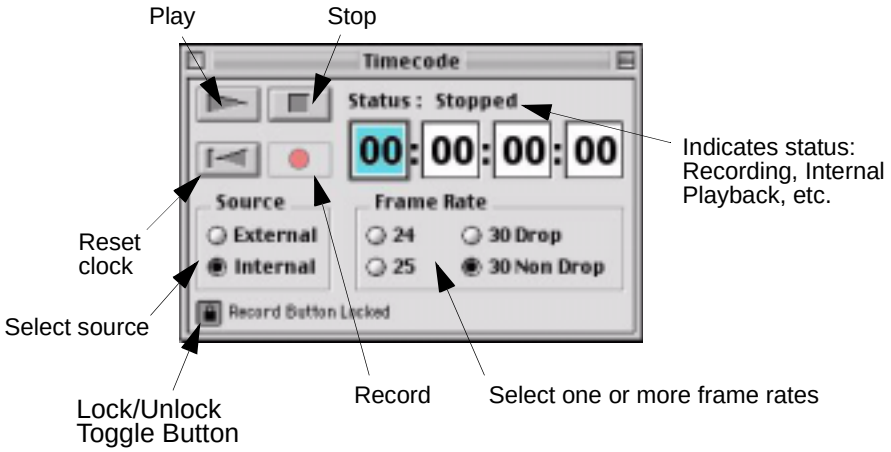
Step 2. Select External or Internal.

Step 3. Select a frame rate.

Step 4. Click record button to begin timed recording. Clock will start counting.

Step 5. Execute cues.

Step 6. Click stop button.



Timecode Scripts Window

The content of timecode scripts can be viewed and edited in the Timecode Scripts window. The Delete, Replace, Punch In, and Insert features allow editing so that an entire script does not have to be re-recorded in order to make a change. The Time column may also be edited.

Guidelines for editing timecode:

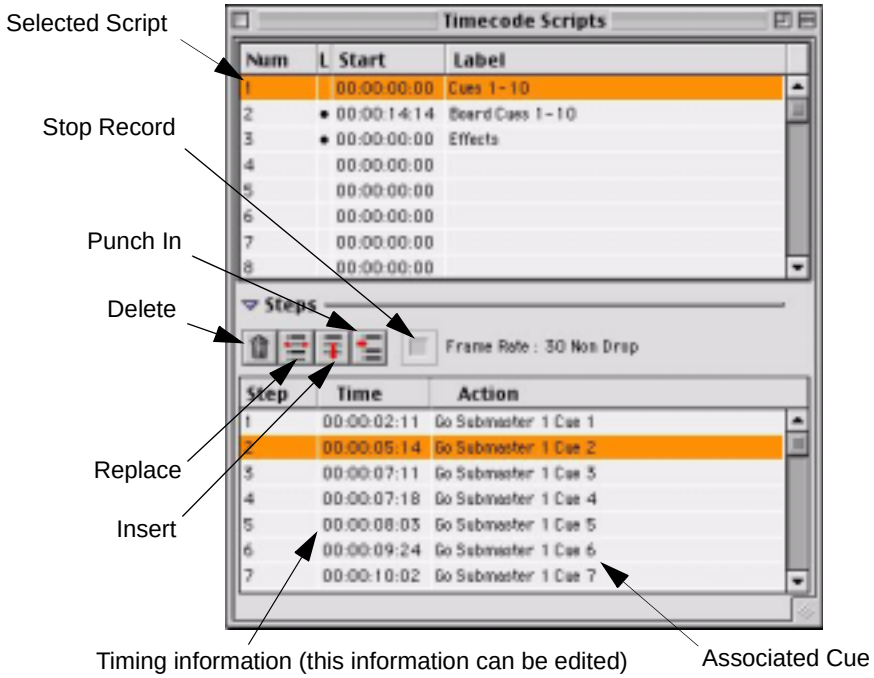
To allow creation of multiple scripts, only the selected script will be run.

Any action may change the times of all cues...

- If a step is deleted, all the following cue times will change.
- If a step is added, all the following cue times will change.
- If the [Record] button is pressed while timecode is running, all the times will change (all steps may be deleted).
- It is best to edit a time within the time range that it already contains.
- Timecode will only be visible if the [Play] or]Record] buttons are pressed. If the signal is expected from an external source then 'Wait' will be displayed.
- To insert a step, select a step click "insert" icon and press a single action to be added. To save action, use [Update] [Macro] [Enter] sequence.
- The Punch In feature bases the new steps/events on the previous timecode and does not record based on external timecode. Therefore, it may be necessary to edit the times manually once the new section is added.
- The Timecode Scripts window calculates timecode displayed for steps based on frame rate selected in the Timecode window. When the frame rate is changed in the Timecode window, the Timecode Scripts window will recalculate values according to the frame rate selected.
- Multiple playback scripts are possible. Scripts selected in Timecode Scripts window are enabled for playback.
- In the Timecode Scripts window individual hour/minute/second/frame times on a step can be edited without affecting any other step times in the script.

Using window:

- To open, at Data menu, select Timecode Scripts.
- Click on Steps drop-down arrow to view content of steps.
- Edit as necessary.



Delete a step:

Step 1. Using trackpad, select step(s) to be deleted.

Step 2. Click on "trash can" icon. Step(s) will be removed.

Replace a step:

Step 1. Using trackpad, select step to be replaced.

Step 2. Click "replace" icon.

Step 3. At desk, perform replacement action. (The first action taken will replace the selected step and editing will end.)

Replace all steps from Step X on (through remainder of script):

Step 1. Using trackpad, select last "good" step. (Steps after this selection will be replaced.)

Step 2. Click "punch in" icon.

Step 3. At desk, perform new series of actions.

Step 4. Click "Stop Record" icon.

Insert new step(s):

Step 1. Using trackpad, select step prior to where you wish to insert new step.

Step 2. Click "insert" icon.

Step 3. At desk, perform new action(s).

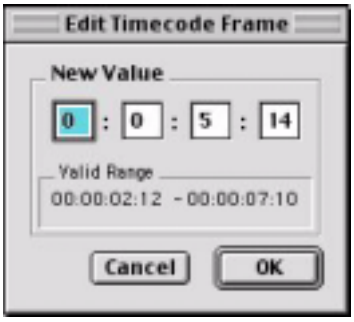
Step 4. Click "Stop Record" icon.

To select multiple scripts for playback:

Step 1. Using trackpad, select line of script for playback.

Step 2. Click in the "L" (Link) column to place a bullet next to each script to be played.

To edit timecode:



Step 1. Using trackpad, select step.

Step 2. At keyboard, press [return].

Step 3. Enter timecode, from available range in window.

To move a range:

Step 1. Using trackpad, select range to be moved.

Step 2. Edit first frame.

Note: A shortcut is available for editing timecodes. Highlight the time segment (Hour, minute, second, or frame) to be edited, make changes, and press [return].

MIDI Show Control

Overview

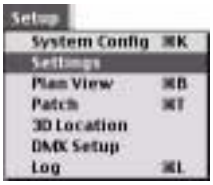
The console can utilize MIDI Show Control (MSC) commands for more advanced external MIDI control. This section covers commands as they relate to Virtuoso functions. For more information on MIDI and MSC, consult the following document available from MIDI Manufacturers Association (MMA):

- The Complete MIDI 1.0 Detailed Specification
  MMA
  P.O. Box 3173
  La Habra, CA 90632-3173
  Fax: (714) 736-9775
  www.midi.org

Virtuoso has two options that must be defined before using MSC:

- The MIDI ID is the device ID of the external device. This value can be defined as anything from 0-126. The system will accept an incoming value of 127 for an "All Call". The MIDI ID default is zero. The MIDI ID of the console must match the external device ID at the MIDI show controller.
- The "Go #" Action selection, allows you to define if the "Go #" Action will take place for a Submaster or for a Board Cue.

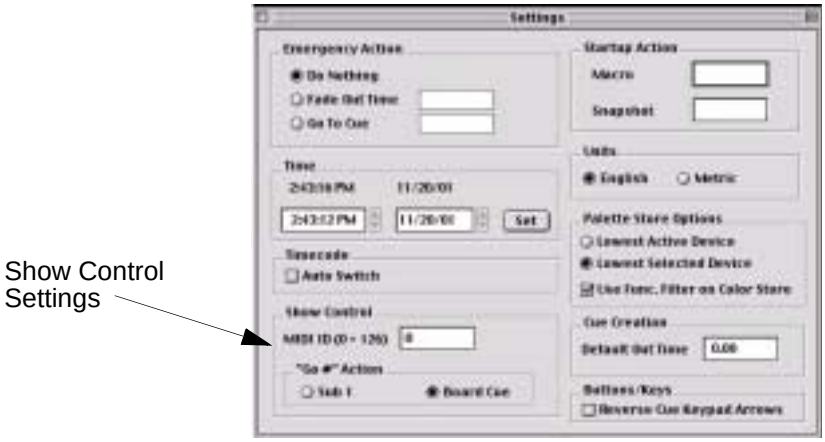
To setup show control settings:



Step 1. Select Settings from the Setup menu.

Step 2. At Show Control box, input MIDI ID (0-126). Refer to external controller.

Step 3. Select Sub 1 or Board Cue from the "Go #" Action.



Variables

The cue number, *Q_Number,* typically represents actual Virtuoso cue number, Board cue number or other items that can be numbered such as effects, snapshots, macros, etc.

The cue list, *Q_List*, represents the submaster number. Zero (0) will be used for board cue playback, 1 through 30 for submasters, and 256 will specifically represent "no submaster" for recall of items other than cues if *Q_List* cannot remain blank.

The cue path, *Q_Path*, represents the type of data. The default type will be Cue if no *Q_Path* is given. They are defined as:

Q_Path	Data Type
0	Cue
1	Board Cue
2	Effect
3	Set
4	Sequence
5	Macro
6	Snapshot
7	Preset
8	Color
9	Beam
10	VL Color
11	Group

Commands

MSC commands are interpreted by the Virtuoso based on the number, list, and path fields in the cue data.

Command	Description	Data Format
Go	Used for board cue go, submaster go, submaster autoload, and for recall of any type of Virtuoso item.	*Q_Number:Q_List:Q_Path*
Stop	Will generate either a board cue stop/back or a submaster stop even based on *Q_List*. (0-30)	*--:Q_List:--*
Resume	Will generate a submaster run event based on *Q_List*. (*Q_List=0* is NOT valid.) (1-30)	*--:Q_List:--*
Load	Will generate either a board cue select or a submaster load event based on the *Q_List.* The Q_Number and Q_Path define the item number and type of item to load.	*Q_Number:Q_List:Q_Path* (Path can ONLY be empty, 0, or 2)
Set	Used to set fader and grandmaster positions. Control numbers 1-30 correspond to submaster faders, and control numbers 0-510 to the grandmaster. The control values will be the fader position (0-255). The time value is not used.	*Special*
Fire	Used to recall macros 1-127. Use the **Go** command to recall other macros.	*Special*
All Off	Generates a blackout-on event.	*None*
Restore	Generates a blackout-off event.	*None*
Reset	Clears all 30 submasters.	*None*
Go Off	Deselects submaster (*Q_List* = 1-30).	*--:Q_List:--*
Open Cue List	Selects submaster (*Q_List* = 1-30).	*--:Q_List:--*
Close Cue List	Deselects submaster (*Q_List* = 1-30).	*--:Q_List:--*

Note: If part of the data is left out, the console will default to a particular action depending on the command. Unknown commands will most commonly be reported in the log.

Defined [Go] Actions

The following are actions available with the [Go] command:

- ***Q_Number* = N, *Q_List* = 1-30, and *Q_Path* = empty or 0**: "submaster {*Q_Number*} autoload cue N".
- ***Q_Number* = N, *Q_List* = 1-30, and *Q_Path* = 2:** "autoload of effect N on submaster {*Q_List*}".
- ***Q_Number* = N, *Q_List* = empty or 256, *Q_Path* = P (5-11):** "recall of macro, snapshot, preset, color, beam, VARI<Asterisk>kLITE color, or group {P}".

The following do not require a *Q_Path* value, and will ignore any value present.

- ***Q_Number* = empty, *Q_List* = empty:** "board cue go next", simulating a simple press of the board cue go button.
- ***Q_Number* = empty, *Q_List* = 1-30:** "submaster {*Q_List*} go next" simulating a press of that submaster's go button.
- ***Q_Number* = N, *Q_List* = 0:** "board cue number N go" for the recall of a specific board cue.

Note: [Go] N:-:- is either a board cue N go or a Sub 1 cue N go, depending on the selection in the Settings window.

Examples of [Go] Command Values:

Value	Result
-:-:-	Board Cue Go
-:0:-	Board Cue Go
-:1:-	Submaster 1 Go
-:30:-	Submaster 30 Go
-:50:-	Invalid (Bad Submaster #)
1:0:-	Board Cue # 1 Go
12.3:0:-	Board Cue # 12.3 Go
12:1:-	Submaster 1 Autoload Cue # 12
12:1:0	Submaster 1 Autoload Cue # 12
5:26:-	Submaster 26 Autoload Cue # 5
12:1:2	Submaster 1 Autoload Effect # 12
12:-:5	Recall Macro # 12

Notes

APPENDIX A.

Tutorial

Overview

The following tutorial is designed to illustrate the basic steps required to create a new show file, patch some luminaires, create a venue, store cues/effects and play them back.

Note: There are often multiple methods for performing many of the actions covered in this tutorial. However, only one example is provided in order to streamline the procedures. In addition, most stored items can be labeled, however labeling is not covered in this tutorial for the same reason.

The following sample files have been included in the console software for use with this tutorial.

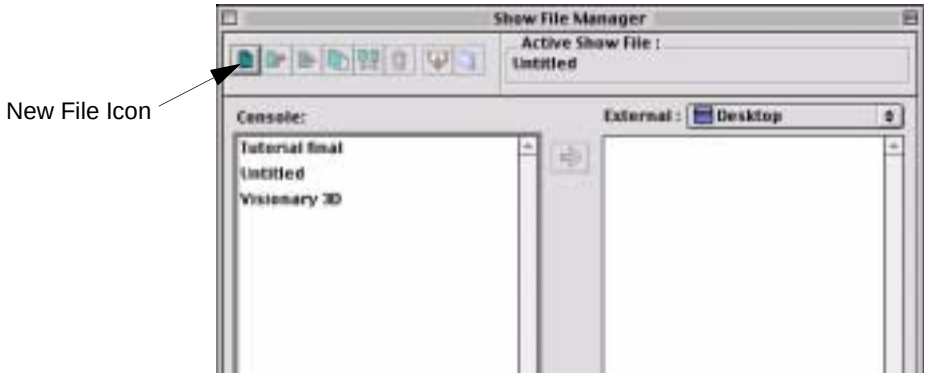
- Show file identical to the one created in this tutorial (for comparison).
- 2D and 3D drawing files for importing into the show file created in this tutorial.
- Patch file as an example.

Basic Tutorial

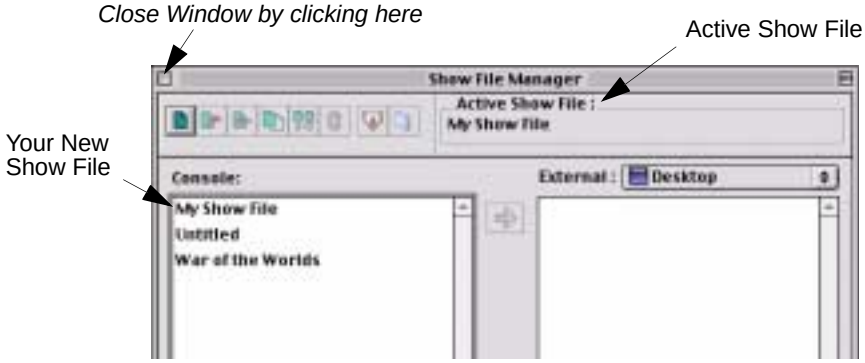
Create a new show file:

Refer to Ch. 17 for more detailed instructions.

1. At File menu, select Show File Manager.
2. Open new show file by clicking New File icon.



3. Enter Name window will open. Enter a name for your show file and click OK.
4. Program will initialize and return to the Show File Manager window. Your show file will now appear in the Active Show File box.

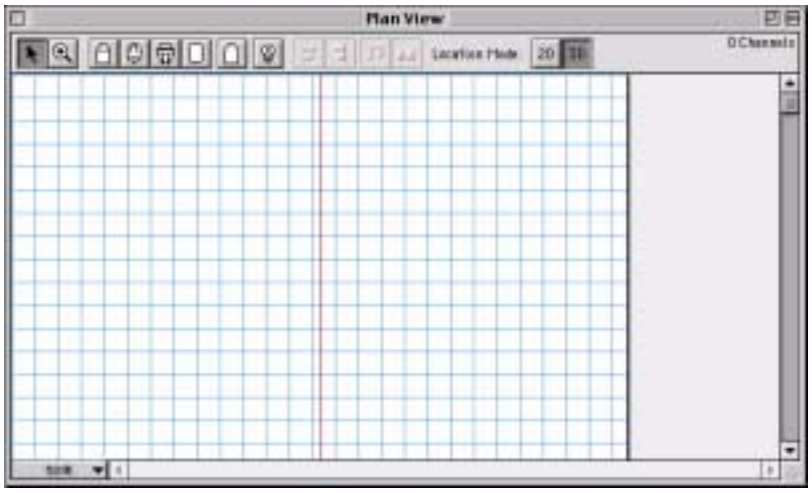


5. Close window by clicking box in upper left corner.

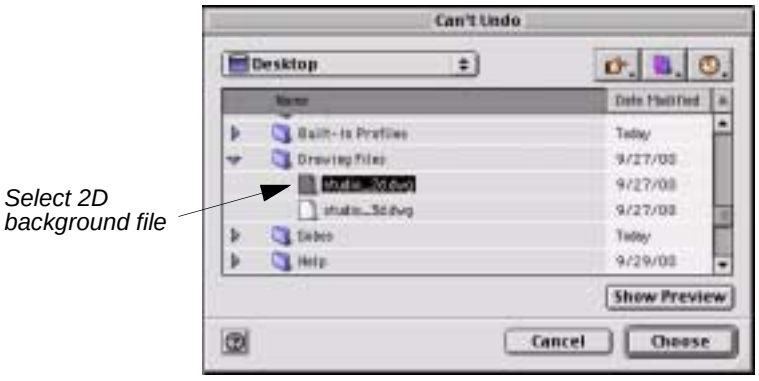
Create a Patch:

Refer to Ch. 3 for more detailed instructions.

1. At Operation menu, select Plan View. (Plan View window will open and 2D Display menu will become available on menu bar.)

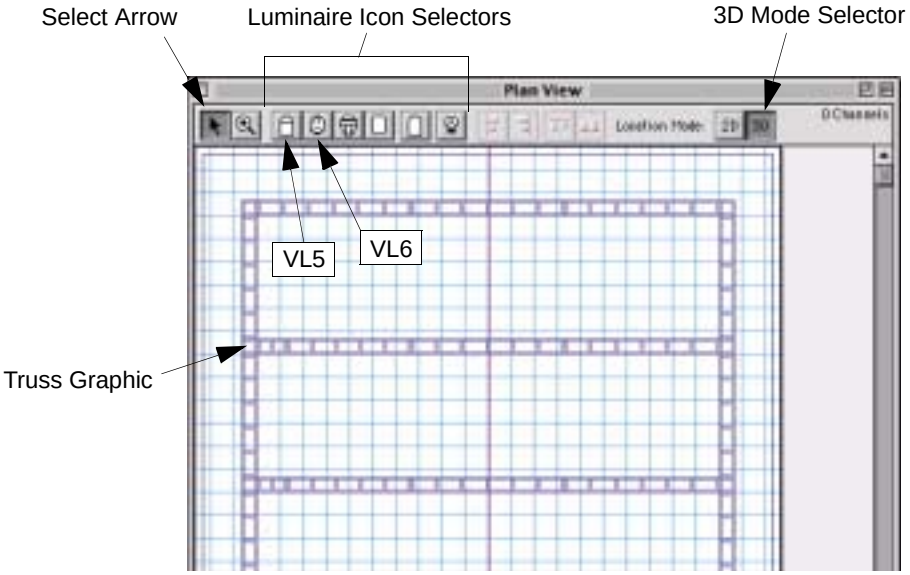


2. At Patch menu, select Enable Editing. Icon bar and grid will appear in Plan View window and Patch menu selection will change to "Disable Editing." "Save Editing" option will also be activated.
3. Import a 2D background picture as follows:
   a. At File menu, select Import 2D Background...
   b. At Open window, locate Drawing Files folder.



   c. Select *studio_2d.dwg* and click Choose.

d. Import Options window will open. Select inches or cm and click OK. (Truss graphic will appear in Plan View window.)

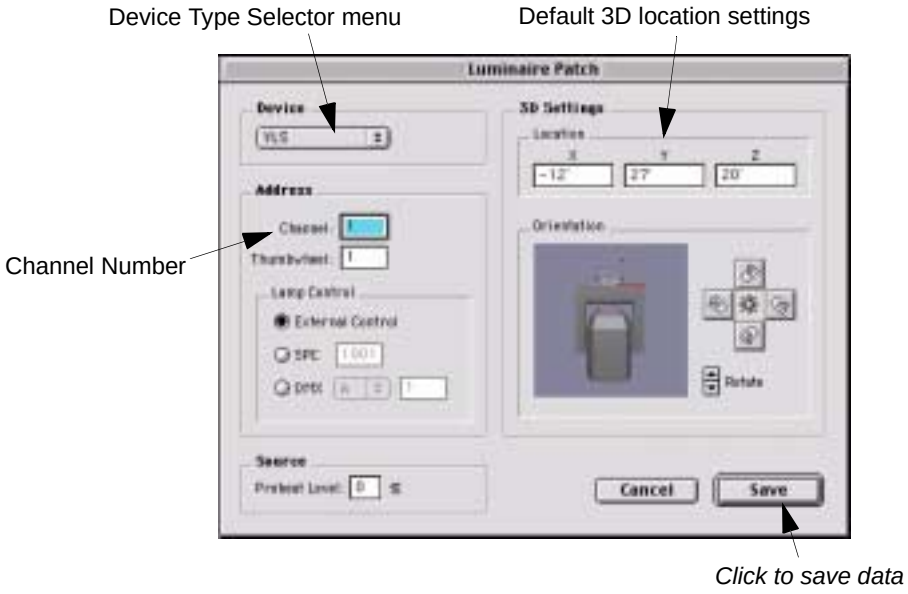


Note: In order for the patched luminaires to appear correctly in the 3D graphic window, luminaire icons should be placed while Plan View is in 3D mode (default).

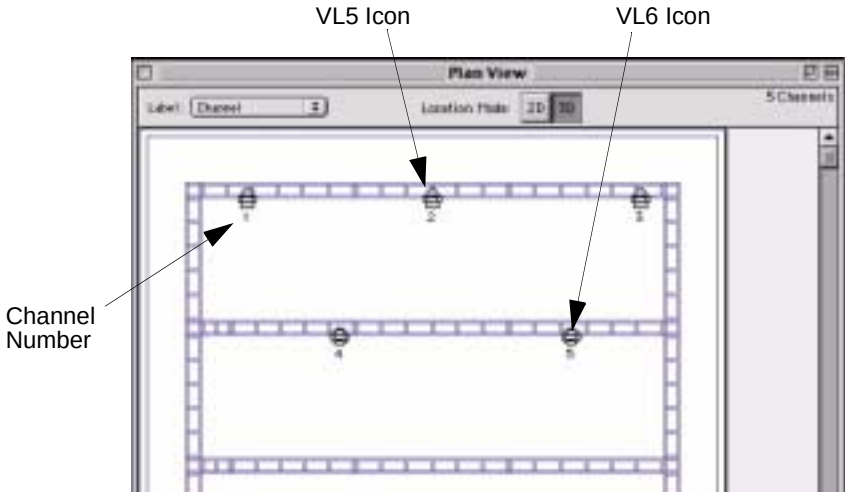
4. At Plan View window, click on VL5 luminaire icon selector. Point cursor at desired location on plan view truss and click to place icon.

Note: Depending on the type of fixture being patched, a slightly different style patch window will be opened: VARI✳LITE, DMX, or Conventional. In this example, only the VARI✳LITE Luminaire Patch window is used.

5. Luminaire Patch window will open with default settings. For this tutorial we will use the default settings. Click Save to accept.



6. Repeat Steps 4 and 5, patching three VL5 luminaires and two VL6 luminaires (see screen capture below). Use default channel numbering so that these will correspond to channels 1-5.

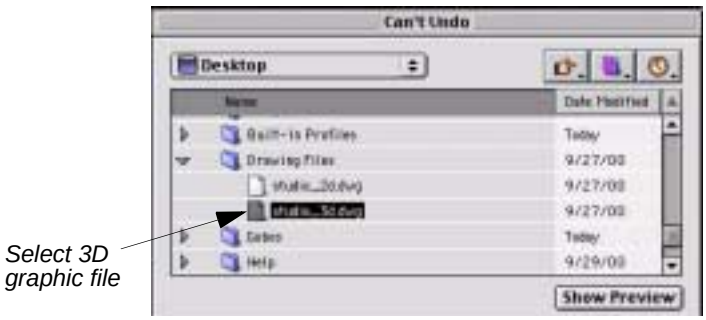


7. At Patch menu, select Disable Editing.
8. Save Patch Changes window will open. Click Save.

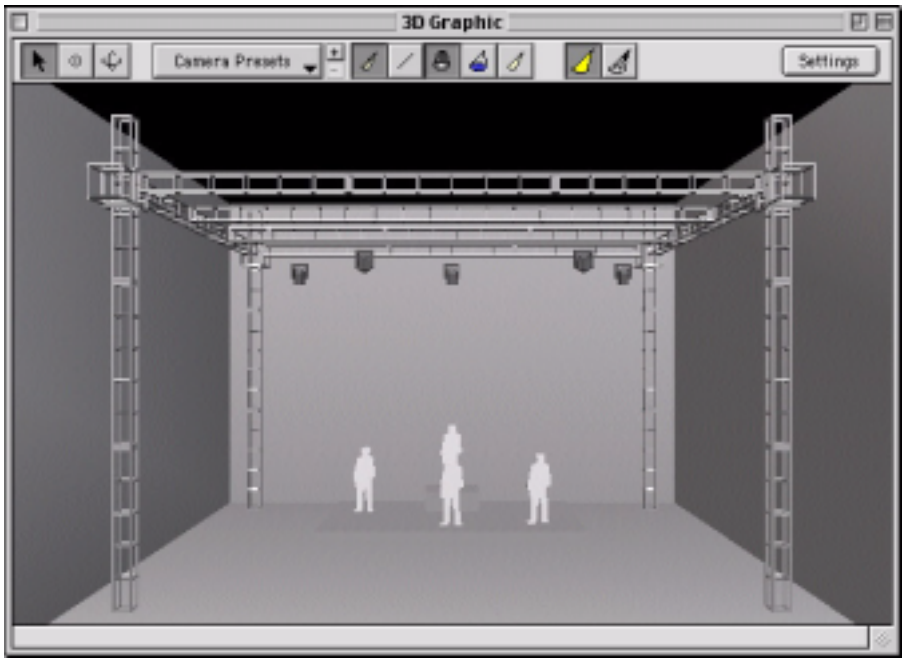
Set up 3D Graphic window:

Refer to Ch. 16 for more detailed instructions.

1. Import a venue as follows:
   a. At File menu, select Import Venue.
   b. At Open window, locate Drawing Files folder.
   c. Select *studio_3d.dwg* and click Choose.



   d. Import Options window will open. Select inches or cm and click OK.
2. At Operation menu, select 3D Graphic. 3D Graphic window will open. Venue graphic will be visible and your patched luminaires will appear on truss.

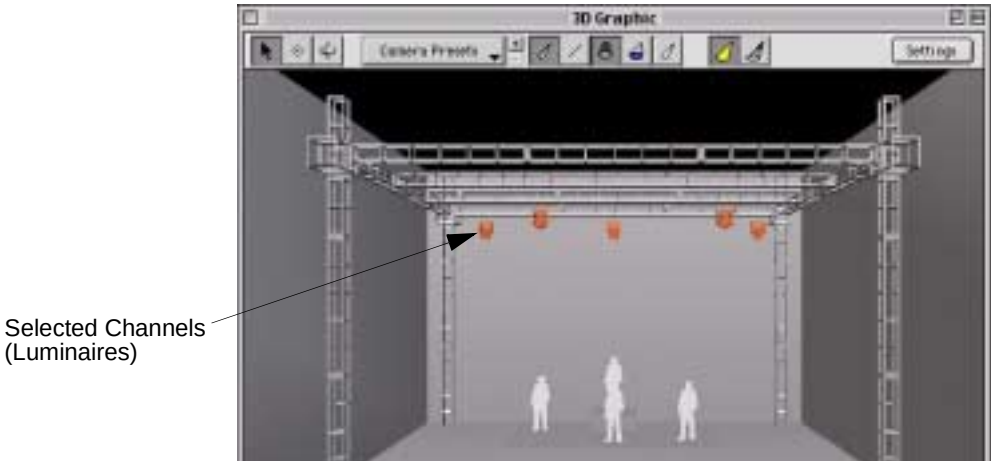


Select channels and store as a group:

Refer to Ch. 4 and Ch. 5 for more detailed instructions.

1. At Panels menu, select Channel Select.

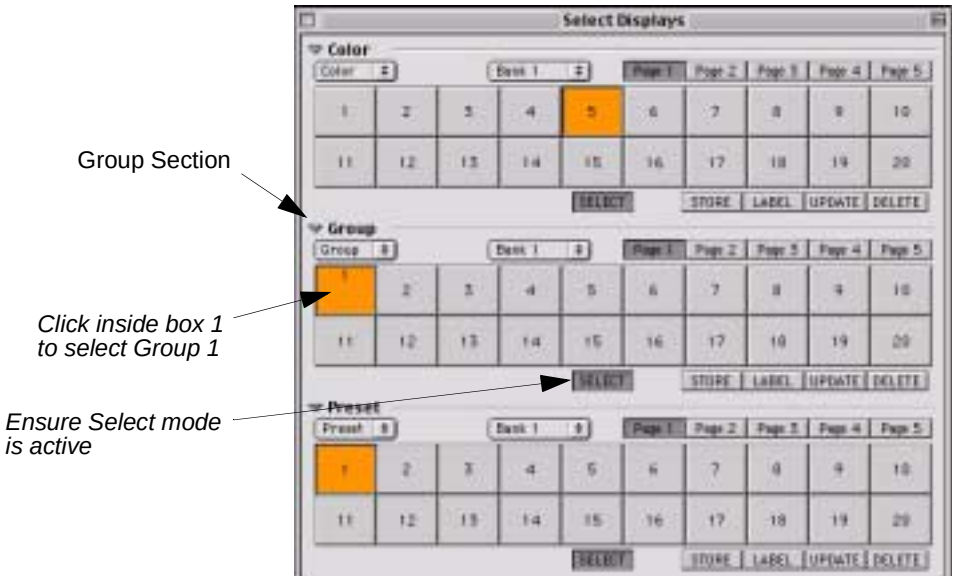
2. At Channel Select window, using cursor, select channels 1-5 by clicking inside appropriate boxes. Channel selections will also appear highlighted in 3D Graphic window.



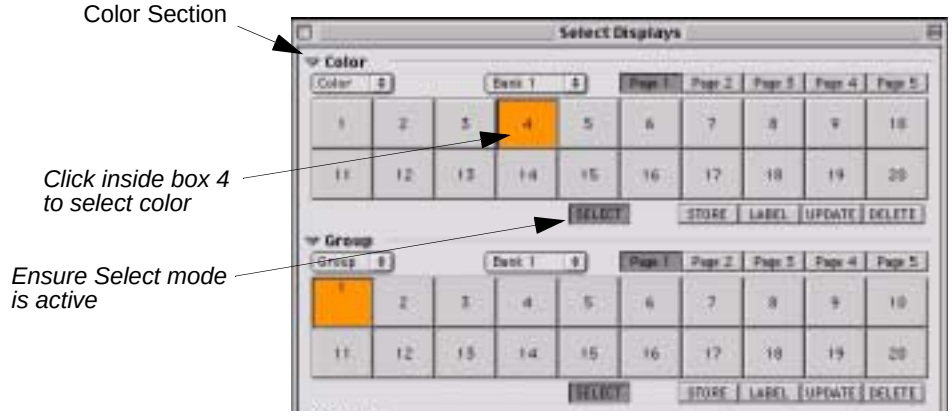
3. Store channels 1-5 as a group:
   a. Press [F1]. (Store window will open.)
   b. Using cursor, select Group. (Or press [G] at keyboard.)
   c. Enter "1" for the group number.
   d. Click OK. Channels 1-5 are now stored as a Group 1 for future recall.

Select group and apply intensity and color:

1. To deselect group (for purposes of this tutorial), click somewhere inside 3D Graphic window. (Luminaires will now be deselected, turning from orange back to gray.)
2. At Panels menu, choose Select Displays. (Select Displays window will open.)
3. At Group section of window, click inside Group 1 box. Luminaires will now be highlighted again in 3D Graphic window.

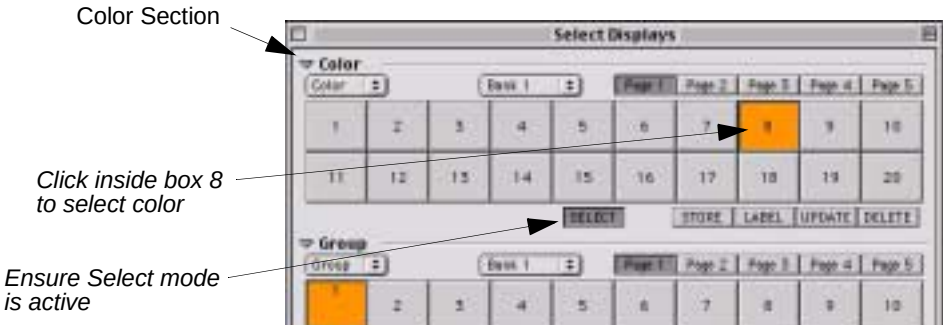


4. At console (near Intensity encoder), press [Full] button to bring intensity to full (100%). Beams will now appear in 3D Graphic window.
5. At Select Displays window, at Color section, click inside Color 4 box. Beams will now have color in 3D Graphic window.



Store two presets:

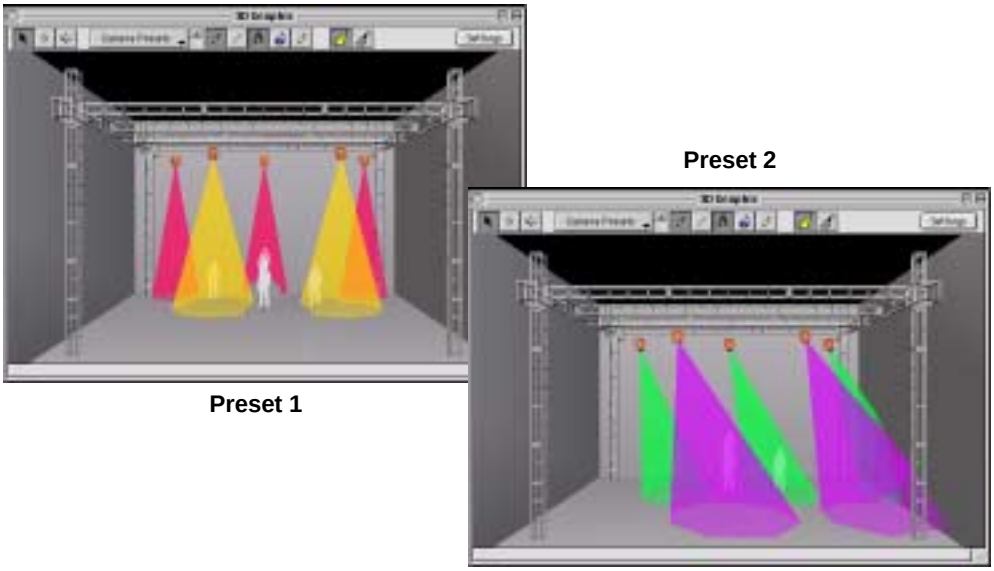
1. Store Preset 1 as follows:
   a. At console Pan and Tilt encoders, turn until luminaire is in new position.
   b. Press [F1]. (Store window will open.)
   c. Using cursor, select Preset. (Or press [P] at keyboard.)
   d. Enter "1" for the preset number.
   e. Click OK. Current 3D graphic look is now stored as Preset 1 for future recall.
2. Store Preset 2 as follows:
   a. At Panels menu, choose Encoders to open window. At encoder window, use Pan and Tilt encoders to move luminaires to new position.
   b. At Select Displays window, at Color section, click inside Color 8 box. Beams will now change color in 3D Graphic window.



   c. At console keypad, press [Store] [Preset] [2] [Enter]. New 3D graphic look is now stored as Preset 2.

store	I	F	E
	C	B	G
Store Preset 2 *			

3. At Select Displays window, at Preset section, alternately click inside Preset 1 and Preset 2 boxes. Note the changes in 3D graphic window.



Preset 2

Preset 1

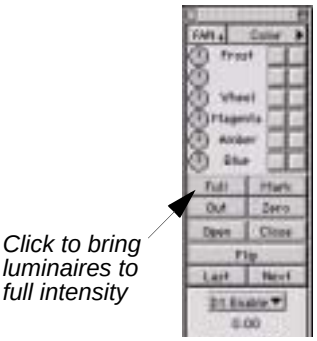
Store two cues and play back:

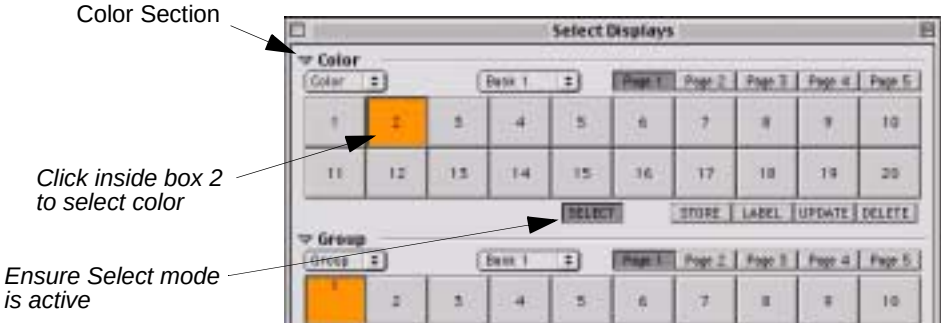
Refer to Ch. 7 for more detailed instructions.

1. Store Cue 1 as follows:
   a. At 3D Graphic window, click somewhere inside window to deselect luminaires.
   b. While holding down keyboard [Shift] key, click on both VL6 luminaires to select.
   c. At Encoders window, click Out. (Beams will go to zero - no intensity).
   d. Press [F1].
   e. Enter "1" as cue number.
   f. Click OK to store cue.

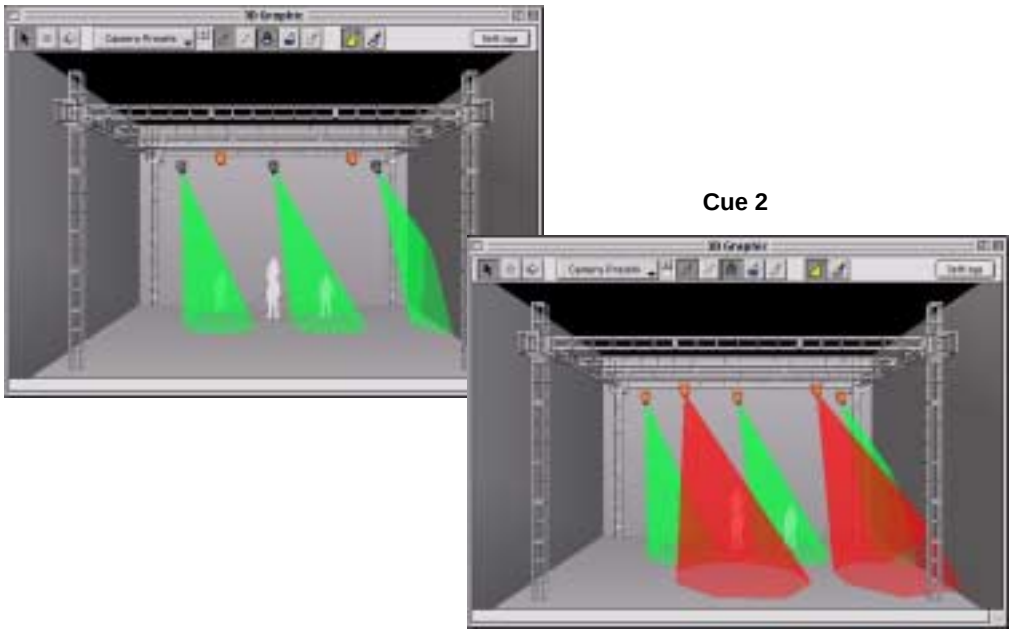
Click to take luminaires to zero intensity

2. Store Cue 2 as follows:
   a. At Encoders window, click Full to return intensity to VL6 luminaires.
   b. At Select Displays window, click inside Color 2 box to change beams to red.
   c. Press [F1], enter "2" as cue number, and click OK to store.



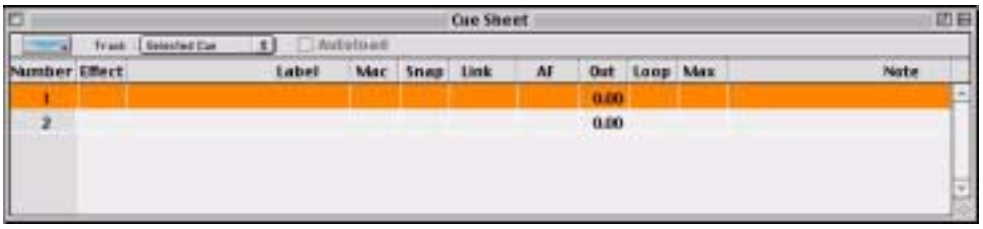


Cue 1

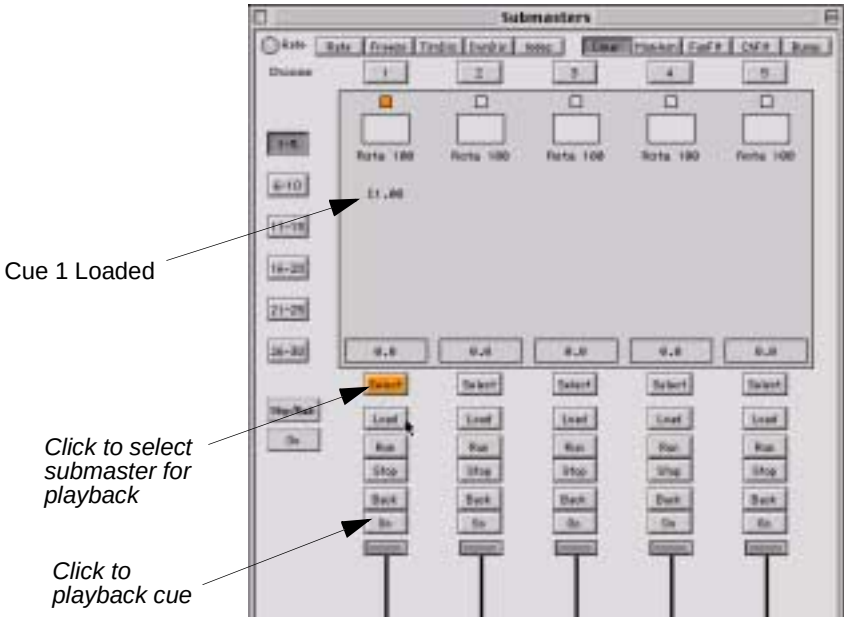


Cue 2

3. Select Cue 1 as follows:
   a. At Operation menu, select Cue Sheet.
   b. At Cue Sheet window, select Cue 1.



4. Load Submaster and playback cues as follows:
   a. At Panels menu, select Submasters.
   b. Click Load (of selected submaster) to load cue. C1.00 will appear in submaster's window.
   c. At Submasters window, click Select button to select submaster for playback.
   d. Click Go (of selected submaster) to playback Cue 1.
   e. Click Go a second time to playback Cue 2.
   f. Press Back to play Cue 1 again. Note changes in 3D Graphic window as cues are played.



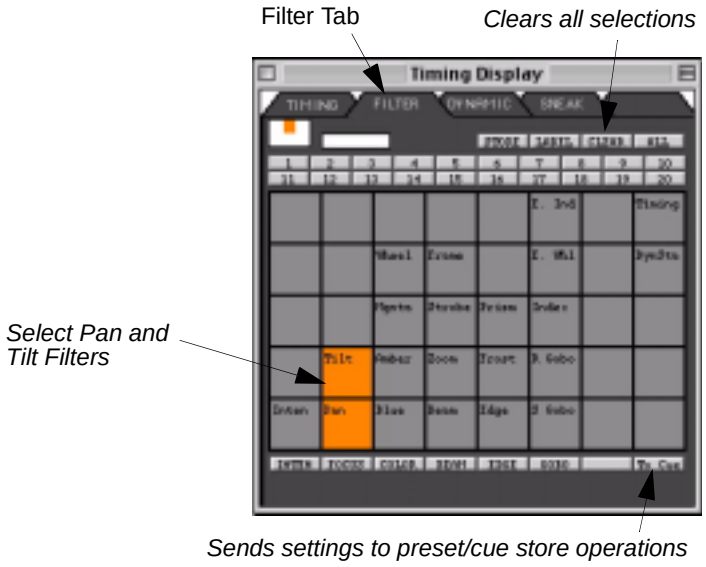
Add timing and filters to presets and cues:

Refer to Ch. 9 for more detailed instructions.

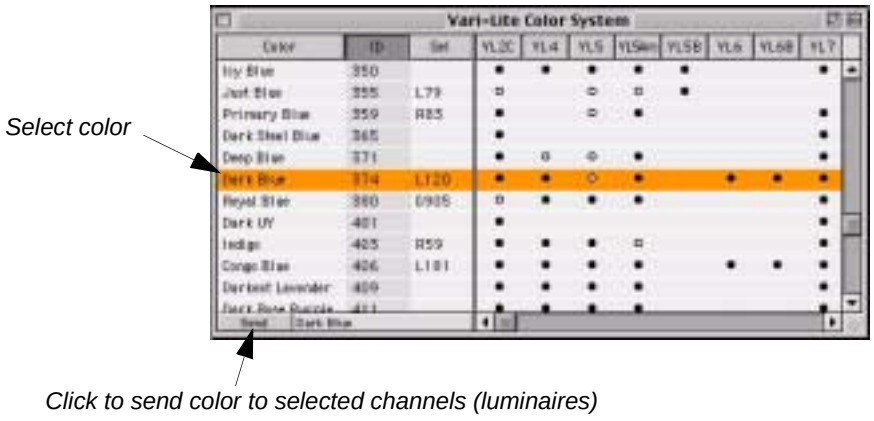
1. Recall Preset 2 as follows:
   a. At Panels menu, choose Select Displays.
   b. At Select Displays window, at Group section, click inside Group 1 box. Channels (luminaires) 1-5 are now selected.
   c. At Preset section, click inside Preset 2 box. Luminaires in 3D Graphic window will move to Preset 2.

Note: When a parameter is *not filtered* (i.e. highlighted in Filter screen), its data would be transferred during any subsequent store or recall operations.

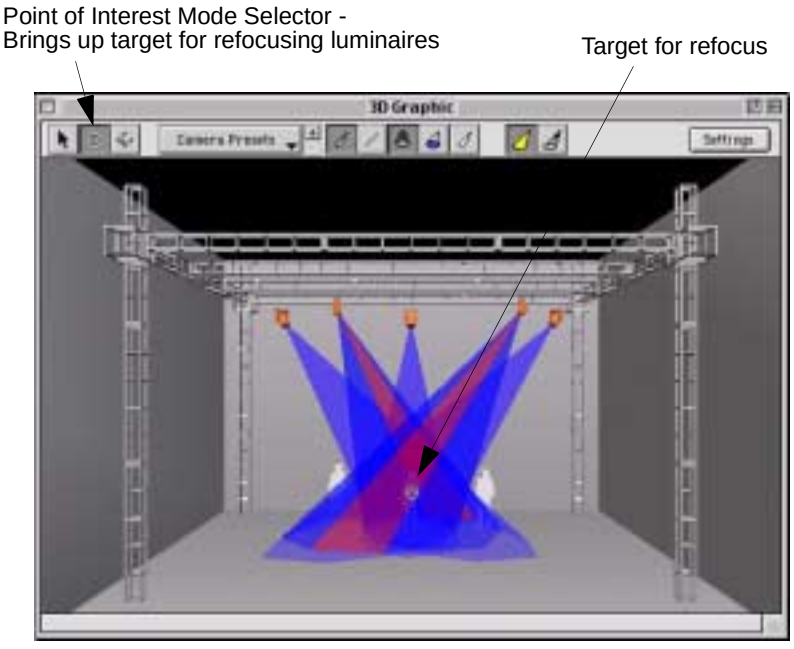
2. Filter all parameters *except* pan and tilt (focus) as follows:
   a. At Panels menu, select Timing Display.
   b. At Timing Display window, click Filter tab.
   c. Click Clear button to deselect all parameters.
   d. Click in Pan and Tilt boxes to select for data transfer (only pan/tilt data will be stored in the preset).



3. Apply a VARI✳LITE color as follows:
   a. At Operation menu, select VL Color System.
   b. At VL Color System window, scroll down and select Dark Blue (ID 374). *Refer to Ch. 6 for more detailed instructions.*
   c. Click Send button to send color data to luminaires.



4. Refocus luminaires using 3D Point of Interest mode as follows:
   a. At 3D Graphic window, select Point of Interest mode by clicking target icon.
   b. Point target at figure standing center stage. Click to refocus beams towards target.



5. Store focus information as Preset 3 as follows:

a. Press [F1]. (Store window will open.)

b. Using cursor, select Preset. (Or press [P] at keyboard.)

c. Enter "3" for the preset number.

d. Click OK.

e. At Select Displays window, at Preset section, click inside Preset 3 box to send luminaires to Preset 3.

6. Add timing information as follows:

a. At Timing Display window, click Timing tab to display Timing screen.

b. Click in Pan and Tilt boxes to select for timing information.

c. Press [F11]. (Timing window will open.)

d. Enter "5".

e. Click OK to send value to Timing screen. "T 5.00" will appear in Pan and Tilt boxes.

f. At Timing screen, click Enter button to send timing information to cue store operations.

7. Store Cue 3 as follows:

a. Press [F1].

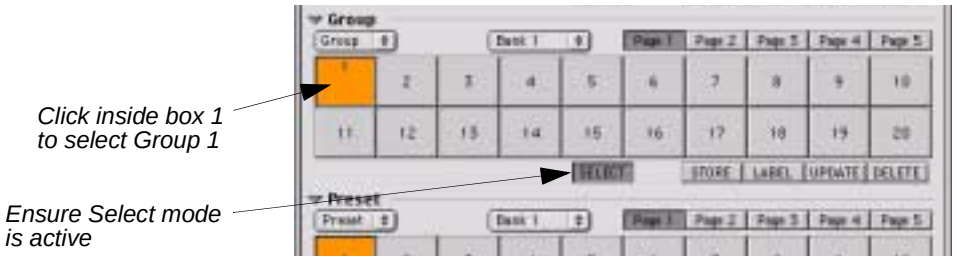
b. Enter "3" as cue number, and click OK to store. Cue 3 is now stored with timing information and a reference to Preset 3's focus information.

8. Playback all three cues. Refer to instructions on page 330.

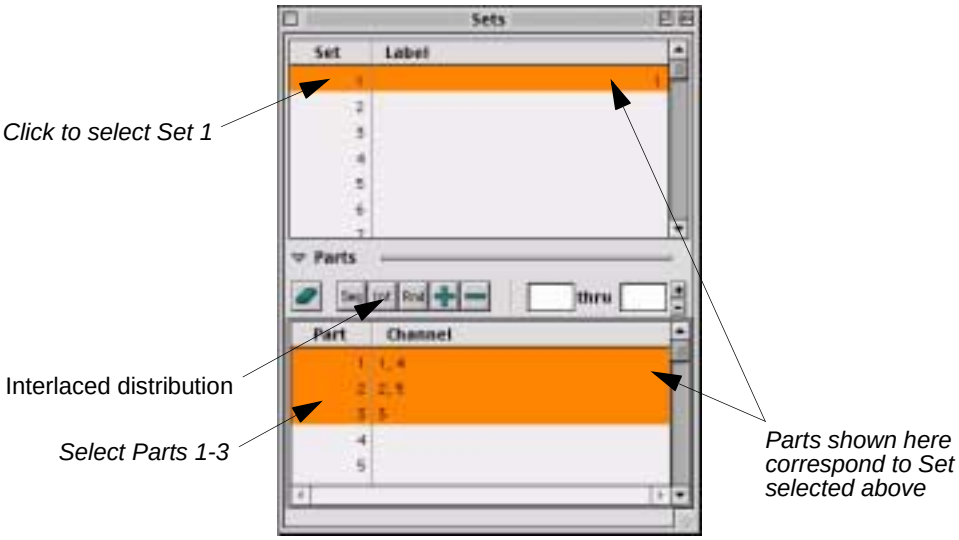
Create and playback an effect:

Refer to Ch. 8 for more detailed instructions.

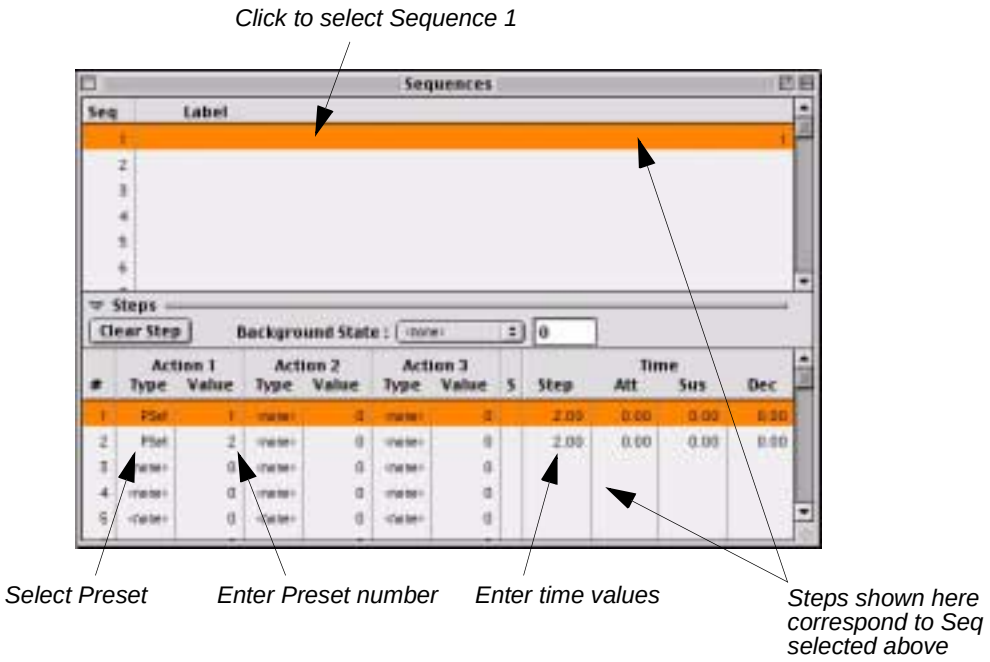
1. Create a set as follows:
   a. At Panels menu, choose Select Displays. (Select Displays window will open.)
   b. At Group section of window, click inside Group 1 box. Channels 1-5 (your group of luminaires) will now be selected.



   c. At Data menu, select Sets. (Sets window will open.)
   d. Using cursor, select Set 1 at upper half of window.
   e. At lower half of window, while holding [Shift], select Parts 1-3.
   f. Click Int (Interlaced) button. Your group of five luminaires will be distributed across the three parts.

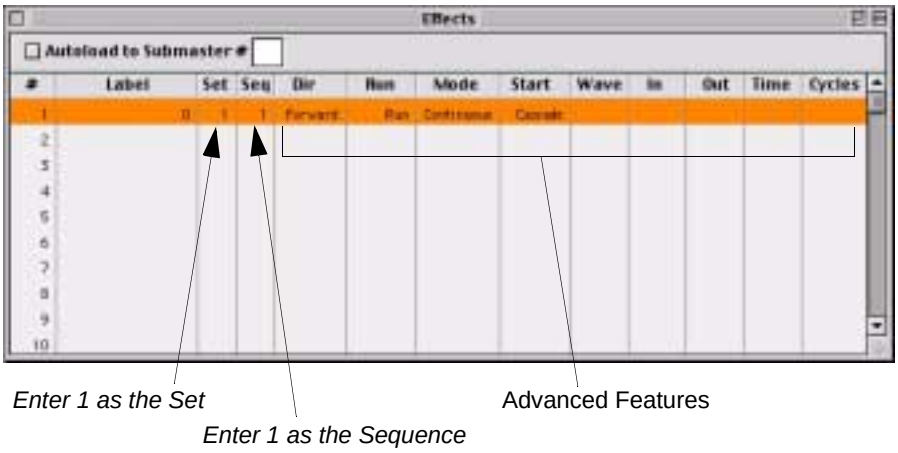


2. Create a sequence as follows:
   a. At Data menu, select Sequences. (Sequences window will open.)
   b. Using cursor, select Sequence 1 at upper half of window.
   c. At lower half of window, at Step 1, Action 1, use popup menu to select Preset (PSet).
   d. At Action 1 value, enter "1". (This specifies that the luminaires will move to Preset 1 in the first step of the sequence.)
   e. At Step 2, Action 1, use popup menu to select Preset (PSet).
   f. At Action 1 value, enter "2". (This specifies that the luminaires will move to Preset 2 in the second step of the sequence.)
   g. At Time section of window, enter 2.00 for both Step times, and 0.00 for all other times.



3. Define effect as follows:
   a. At Data menu, select Effects. (Effects window will open.)
   b. Using cursor, select Effect 1.
   c. At Set column, enter "1".

d. At Seq column, enter "1". (An effect using Set 1 and Sequence 1 is now created.)


Effects
Autoload to Submaster #
Label Set Seq Dir Run Mode Start Wave In Out Time Cycles
Enter 1 as the Set
Enter 1 as the Sequence
Advanced Features

4. Load Submaster and playback effect as follows:

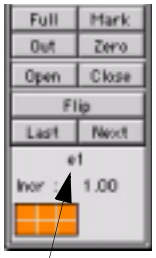
a. At Effects window, ensure Effect 1 is selected. (Selected effect is displayed in Encoder window.)

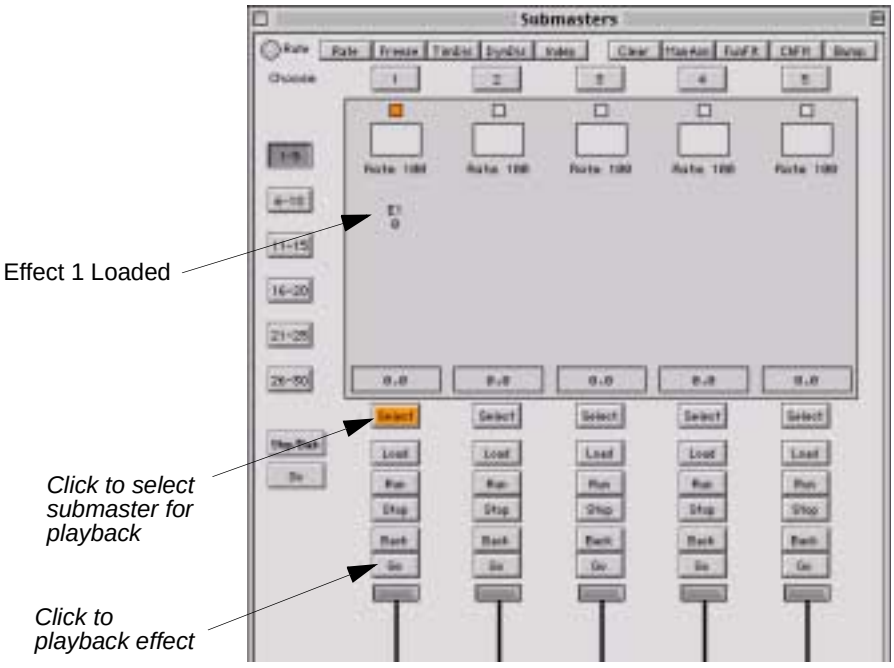
b. At Panels menu, select Submasters.

c. Click Load (of selected submaster) to load effect. E1.00 will appear in submaster's window.

d. At Submasters window, click Select button to select submaster for playback.

e. Click Go (of selected submaster) to playback Effect 1.





APPENDIX B.

Glossary

Active — An intensity value greater than zero (1-100%). When a luminaire is *active*, it will store data for all parameters (including intensity). Also, a selected submaster and its associated cue are considered active.

Ad Hoc Group — A group of channels selected "on-the-fly" which has not already been pre-stored (as a group). Ad Hoc channel selection is based on information such as "all channels in a specific preset."

Beam — The size, shape, and sharpness of the light image being output by a luminaire. Also, a function of the luminaire related to the above characteristics. In a wash luminaire, beam defines lamp centering position. In a spot luminaire, beam defines the iris size.

Beam Select — Programmed beam attributes which can be applied to selected channels using the Beam select display or command-line keypad.

Blackout — When the console's overall intensity output level is set to zero (0%).

Board Cue — A method for orchestrating the playback of recorded events on submasters. By using a board cue, a number of cues and effects can be loaded and activated in faders simultaneously or with timing delays on a cue basis.

Broadcast — Digital data signals transmitted from the control console to the luminaires and interface devices. The signal is received by all luminaires simultaneously and interpreted by each individually.

Bump — A submaster mode in which pressing the submaster's [Select] button will instantly "bump" full intensity as provided by the cue and fader position for all channels in the active cue.

Channel — A control reference which collects a device's associated thumbwheel address(es) (device, lamp power, etc.) and maps them to a single selectable number. Channels are assigned via the patch setup. (Also referred to as a "Control Channel.")

Channel Filter — A submaster mode which allows only the channels selected at the point the channel filter button is deployed to be enabled on that submaster. Taking the submaster out of channel filter mode enables all channels again. The channels to be filtered must be selected each time the channel filter is engaged for a submaster.

Color — The subjective interpretation by the human eye and nervous system of electro-magnetic radiation in the 380 to 760 nm band (visible light). Also, a function of the luminaire specified by color and saturation data, or by filter position data.

Hue is the subjective appreciation of the dominant wavelength of a light source; the attribute of color perception by which different parts of the spectrum are distinguished (red, orange, yellow, green, blue, violet, purple).

Saturation is the subjective appreciation of purity, a relation of the intensity of the dominant wavelength to all other wavelengths (defined by terms such as deep, pale, light, dark).

Color Select Programmed colors which can be applied to selected channels using the Color select display or command-line keypad. A VARI✻LITE color palette is available by default, however, colors can be reprogrammed as required.

Command-Line A series of keypad entries for the purpose of manual control of luminaires or for programming cues, effects, presets, etc.

Control Channel *See* "Channel."

Copy/Move Feature which allows manipulation of preset, cue, sets, and sequences data.

Crossfade A cue type (as opposed to an effect cue type) that contains end state target data and timing transition data. Crossfades will replace the data provided by the previous cue in the same fader, or will provide last instructions to all parameter data when played back in another fader, with the exception of intensity data, which is handled in a HTP manner (unless LTP is selected as the intensity default).

Cue A programmed event that can be played back on any submaster. A cue can be a crossfade or effect. 10,000 cues can be recorded, numbered from .01 to 9999.99.

Cue Attribute Data which is programmed in association with a given cue number. Cue attributes include labels, out time for luminaires assuming an inactive state in the associated cue, links to other cues, macros, board cues or snapshots, with or without wait/trail times and alternate fader assignments. Rate, link, and loop instructions may also be associated with cues.

Cue Sheet Provides a sequential listing of cues and board cues along with all assigned attributes. Also, indicates cue status (active or inactive) and is reflective of live mode operations in that it will display the last activated cue.

Delay Time A countdown time applied to any luminaire parameter time which begins from the moment the associated cue is executed.

Douse To de-energize a luminaire lamp. (Douse is unrelated to intensity states.)

Down Fade Time Timing value associated with channel intensity settings. Down Fade time affects the intensity transition in the event the transition is in a downward direction. The Down Fade time has an associated delay time.

Dynamic Disable A submaster mode which prohibits the replay of dynamic states on that submaster.

Dynamic State Pre-packaged actions (states of motion) which can be applied to channels or groups of channels and then stored as a cue or preset. When stored into a preset, the state information, as well as the established orientation, size and rate are stored. When stored into a cue, the attributes affected by the dynamic state will follow the timing information for those parameters before assuming the dynamic state, with its rate information.

Edge In a wash luminaire, edge defines the spot or flood range of the diffusion mechanism(s). In a spot luminaire, edge defines the hardness or softness of the beam edge.

Effect A programmed chase sequence that can be played back on any submaster. An effect consists of programmable sets and sequences. When assigned to a cue number, the effect data is the only data stored with the cue. 500 effects may be programmed, numbered from .01 to 999.99.

Effects Index Changes orientation of rotating effect.

Effects Wheel A beam altering mechanism available in some luminaires. Sometimes called a “prism” wheel.

Effect Timing Timing values applied to an overall effect or its associated steps. Each step in a sequence can be provided with a discrete attack time (fade in), sustain time (hold), decay (fade out) and step time. Each effect can be provided with an overall fade-in time, fade-out time, duration, and decay time.

Emergency Cue The state a luminaire will assume if communication between the luminaire and the console is disrupted for more than 15 seconds. It is possible to have no emergency cue specified (in which case the luminaire will fade to inactive) or to have a “Remain in State” instruction, in which case the luminaire will take no action. Any cue can be specified as the emergency cue by using the Settings window.

Frame A luminaire mechanism which allows framing of the light beam. Control for frame is provided by the soft encoders.

Filter Used to withhold data from a preset or a cue, or to control what is recalled in a submaster or select. Assignment of filters is a manual attribute. If a cue is recorded with a filter in place, the filter becomes a mask and is a recorded element in that cue. Filters active during preset records will withhold that data from the target preset. Filters are ignored during preset recall and cue/preset update commands. Applied submaster filters take effect on the next cue recall.

Filter Mode A touch screen display mode, which provides access to filter states.

Flip A function which moves pan 180 degrees about the zero axis and "reflects" tilt about the zero axis. Inverts gobo, if present.

Focus The point to which the light beam is directed. Also, a function of the luminaire related to the direction of the beam as specified by pan and/or tilt data.

Freeze A submaster mode which halts cue movement on that submaster.

Frost A beam attribute available in some DMX-controlled luminaires. Control for frost is provided by the soft encoders.

Function One of the variable operational parameters of luminaires (intensity, focus, color, beam, gobo, timing and dynamic states).

Function Filter A submaster mode which transfers the current filter settings to the selected submaster.

Gobo A luminaire mechanism which allows projection of a design or custom image in the light beam.

Grand Master Fader which masters the overall intensity output of the console. Its contribution is calculated after input of stored cue values and submaster fader settings.

Group A collection of luminaire control channels. Groups may be selected from the Group Select portion of the Channel Select panel or from the command-line keypad.

Group Select A function of the Select Displays which allows channels to be stored and recalled as groups.

Hard Reset Restarts luminaires and reloads operating system and cue data.

Hue The subjective appreciation of the dominant wavelength of a light source; the attribute of color perception by which different parts of the spectrum are distinguished (red, orange, yellow, green, blue, violet, purple).

HTP Highest Takes Precedence. During intensity conflicts, this setting causes luminaires to assume the intensity value of the selected channel having the highest value.

Inactive A luminaire state (programmed via the [Out] button) in which no recorded data is provided for that luminaire in a selected cue. When a luminaire is *inactive* (or *out*), it will not store data for any parameter.

Independent A submaster mode which prohibits the associated submaster's contents from being altered by any other active submaster. Releasing the submaster from its independent state makes the associated channels/parameters available to other control. Those channels will respond to the next available instruction for which it has stored data. The intensity levels for channels on independent submasters are affected by the setting of the Grand Master fader. *Example*: Press and hold [Ind] while pressing [Choose] of required submaster.

Indexing Changes orientation of rotating gobo.

Intensity The amount of light emitted by a source, per second in a given direction within a cone of unit solid angle. Also, the function of a luminaire related to the brightness of the beam as projected on a surface, specified by intensity data.

Label An alpha-numeric identifier which can be stored with elements such as cues, effects, groups, macros, templates, and selects.

Link A cue attribute which alters the next sequential cue in the Cue Sheet. The automatic activation of the linked cue is dependent on the presence of a wait or trail time. Links can be made to cues, effects, snapshots and macros.

Live Editing A console mode wherein all actions taken are actually executed by the luminaires, in real time, on stage. *Also see* Preview Editing.

Load When a cue or effect is moved to a submaster's pending file.

Loop An attribute that can be added to a cue, indicating the number of times a linked sequence of cues is to execute.

Luminaire State A luminaire can be in one of four different states in a cue. When the luminaire is *active*, it has recorded data for intensity and all other parameters. When *marked*, it has no intensity data, but does have other parameter data. When the luminaire is *zero*, it has intensity data at 0% but does not have other parameter data (opposite of *marked*). An *inactive* luminaire (out) has no recorded data for any parameter.

Macro A series of command strings (button presses or display selections) that can be recorded for automated playback, either through manual selection of the associated macro number, or from automated activation through the Cue Sheet.

Manual Assign A submaster mode which allows a submaster to control the parameters of manually assigned channels, as well as stored events.

Manual Control Override — Manual Control Override allows a manual intensity level to be established for an inactive channel. That level will remain in effect until a channel receives a command from an active, marked or out channel. A channel on manual control override may be placed on a submaster for intensity control. It will remain under the control of that submaster until it receives a new instruction or until a new event is played back on that submaster. If the submaster is independent, the channel will remain under the control of that submaster until the submaster is released from independent or until a forced update is completed.

Manual Timing Mode — A console mode which allows attributes recalled by a select to follow the timing values that are currently active in the luminaires.

Manual Undo — Returns an affected channel/parameter to its previous state after a select is deployed or an action is taken on the keypad or with an encoder. Channel selection opens a buffer which snapshots the current setting, making it possible to restore (by subsequent presses of the [Man Undo] button) all actions taken between one channel selection and the next.

Marked — An intensity state of "marked" (0% level). When a luminaire is *marked*, it will store data for all parameters with intensity stored as "marked" (0% level). When a cue is recalled, a *marked* luminaire will move to the stored positions and, if previously active, fade out with the luminaire's intensity down time.

Mask — Prohibits move instructions from affecting those parameters on all luminaires in the cue during cue store actions. Assignment of masks is a stored parameter attribute, which may be applied during live recording, via a Store, Selective Store operation and in preview operations. Masked values are displayed in preview mode and may be lifted via preview editing.

Multi-Console Mode — Used to establish control boundaries when more than one console is being used to control a lighting system. A console can either share channel control with another console or it can have exclusive control. Definition of control interaction is determined by the profiles assigned at the primary console.

Off-Line Programming — A feature which allows preprogramming without having to connect to a system. When in the off-line mode, all menus and windows are accessible just as if the system were online. (The off-line feature does not eliminate the need for a console.)

Out — A luminaire state in which no recorded data is provided for that luminaire in a selected cue. When a luminaire is *out*, it will not store any parameter data. When a cue is recalled, an *out* (or *inactive*) luminaire will not change parameter positions, but if previously active, it will fade out with either the cue time or the console's default time.

Out Time — A cue attribute that defines the intensity fade out time of any luminaires which are *active* at the point of cue playback, but which are *inactive* in the cue being played back and are not included in any other active cue. Out Time will also define the intensity fade out time in the event the submaster is de-selected.

Page — A number of selects available in each bank of group, beam, color, preset, macro, template, and effect selects.

Park — A luminaire state in which it will not respond to any manual or playback commands, nor will it store into any cues.

Part A component of an effect set. Parts are made up of specified channels (luminaire groups) with the limitation that a channel may only appear once within the set.

Patch The mechanism by which thumbwheel addresses (luminaire and interfaces) are assigned to channel numbers. Any number of conventional thumbwheels may be patched to a single control channel. *Also see* Channel.

Preset A set of programmed parameters which can be applied to selected channels using the Preset select display or command-line keypad. All luminaire parameter attributes, including timing values, may be stored into a preset. Changes to presets track automatically into any cues in which they were used.

Preview Editing A console mode wherein all actions taken are stored to the appropriate luminaires, but are not executed on stage. *Also see* Live Editing.

Primary Console This console serves as the main system console. It stores the show file and retains overall submaster control.

Prism A beam altering mechanism available in some luminaires. Sometimes called an "effects" wheel.

QuickFocus QuickFocus allows stepping through a selected preset, one channel at a time, to verify its parameter data. At the conclusion of a QuickFocus operation, all luminaires are brought to the proper position, allowing the preset to be modified if required.

Range Editing Allows data to be modified across a range of presets and cues. Range editing is provided for modifying parameter attributes, timing information, and cue data. Range editing allows targets to be selected for modification by particular attributes, i.e, channels in a particular state could be selected and told to assume some other state (not necessarily via the same parameter).

Rate Allows the recorded time/speed attributes for luminaires to be manually adjusted. Rate adjustments (from 0 to 999) may be provided to a board cue, a cue, or effect. Rate adjustments can be added to the cue attributes for later recall. The default setting of 100 is defined as real time. Rates higher than 100 will cause faster playback of events, while rates lower than 100 will cause slower playback of events.

Recall Allows specified parameter data for selected channels to be recalled live from stored preset or cue, as modified by any filter settings.

Reset *See* Hard Reset *or* Soft Reset.

Run To resume the operation of a stopped effect, or resume the wait/trail countdown of a stopped cue.

Select To obtain manual control of a luminaire from the console. Also, a programmed set of attributes for Beam, Color, Preset, or stored groups, macros, and templates.

Selected A channel or group of channels which will respond to manual control.

Saturation The subjective appreciation of purity, a relation of the intensity of the dominant wavelength to all other wavelengths (defined by terms such as deep, pale, light, dark).

Secondary Console This console is an additional console hosted by the primary console. It receives show data from the primary and mirrors all submaster operations.

Select Display One of three panel displays or Select Displays window components and associated buttons which provide mapping of presets, colors, beams, macros, groups, and templates for store and recall applications.

Selective Store A special command which is used to modify or add parameter data to a cue, preset, or beam state for specified channels (active or inactive).

Selective Recall A special command which is used to recall specific parameter data from specified channels (active or inactive) in a cue, preset, or beam state.

Sequence A component of an effect which is made up of a number of steps. The steps specify what action the applied set (groups of lights) are to take in an effect. *Also see* Set.

Set A component of an effect which is made up of a number of parts. The parts specify which channels are to be included in an effect.

Show File A file containing all programmed cue data. Show files reside on the console's hard drive and can be backed up to a removable medium such as a Zip® disk.

Shutter A mechanism which controls the douser or strobe action of luminaires capable of this function.

Snapshot A stored configuration for a console panel. Snapshots can be recalled either manually or through cues in order to reset any one or all of the front panel controls or displays to the stored configuration.

Sneak A dual-purpose function which allows manual control values to be staged and then recalled in a specified time. Sneak provides a graphic display of command-line entries that would not normally be visible and also provides a means of creating manual control moves "on-the-fly." For this purpose, values can be assigned to parameters and then recalled at a specified time, luminaire time, or by manually pressing Enter at the touch screen.

Soft Encoder One of six soft encoders provided for mapping parameters other than pan, tilt and intensity (which are mapped to hard encoders).

Soft Reset Sends luminaires back to their home position and reloads cue data.

Speed The rate of change of a luminaire's variable parameters. As opposed to time (e.g. 5 seconds), speed is how fast the parameters will move.

Start To energize a luminaire arc lamp (applies to arc-lamp luminaires only).

Step To advance a halted (stopped) effect to its next step.

Step (Effect) A component of an effect sequence. Steps specify what action the applied set (groups of lights) are to take in an effect. *Also see* Sequence.

Store To save any intensity value, parameter attribute, group selection, or timing information into a specified target (e.g., cue, select display, preset, etc.).

Submaster A playback device that can be used to execute cues, board cues, and effects. Cues include luminaire target states (crossfades) and effects.

Synchro-nized In handling MIDI timecode from an external source, synchronized is when incoming timecode arrives approximately on time, and the frame number agrees with the expected time from the system's internal clock.

Template Stored settings for touch screen filter, timing, and sneak modes. Settings are recalled from the Macro/Template select display.

Timing Control of the duration of change for a luminaire parameter. Time is defined in minutes and seconds.

Timing Disable A submaster mode which inhibits timing values on the associated submaster, allowing playback at full speed.

Timing Mode A touch screen display mode, which provides a means of defining timing, delay, and speed values for any or all combination of parameters.

3D Location A device's X, Y, and Z coordinates. These three coordinates are based on a point of origin (X=0, Y=0, Z=0) from which every object in the 3D graphic has been located.

Touch Screen Display The touch sensitive screen which allows access to Timing, Filter, Dynamic State, and Sneak settings.

Track/Fill To force a new parameter setting for selected channels through the cue sheet until a channel block command is encountered or the luminaire parameters affected are set to a different value. A different value may come from absolute values that are different, a preset value that is different or the same value provided by a different preset. Tracking instructions will also be stopped by blocked channels. Track may be used in conjunction with Store, Update and Selective Store. Fill causes the instructions to track backward and forward through the cue sheet.

Trail Time A timing attribute which can be applied to a cue, causing the next event to be automatically executed after the trail time has elapsed. The trail time begins counting from the moment the cue has completed. (The next event being either the next sequence cue, a linked cue, or a linked macro.)

Undo To reverse the last store or delete action on the console.

Update An advanced store/modify function which is used to store modified channels back into their source cues or to add new channels to cues. Update is not routed through channel or filter selections.

Upfade Time A timing value associated with channel intensity settings. The up fade time affects the intensity transition in the event the transition is in an upward direction.

VARI✳LITE Color System A default color palette, available via the Vari-Lite Color System window or command-line keypad, which is based on the numbering system for VARI✳LITE colors.

Venue A representation of your venue or stage production as defined by 3D modeling parameters.

Wait Time A timing attribute that can be applied to a cue, causing the next event to be automatically executed after the wait time has elapsed. The wait time begins counting from the moment the cue is executed. (The next event being either the next sequence cue, a linked cue, or a linked macro.)

Wave Time The time it will take an effect to loop back to the beginning. A wave time can only be greater than the total sequence time (i.e., the wave time will never cut a sequence short, only add a gap before the sequence starts again).

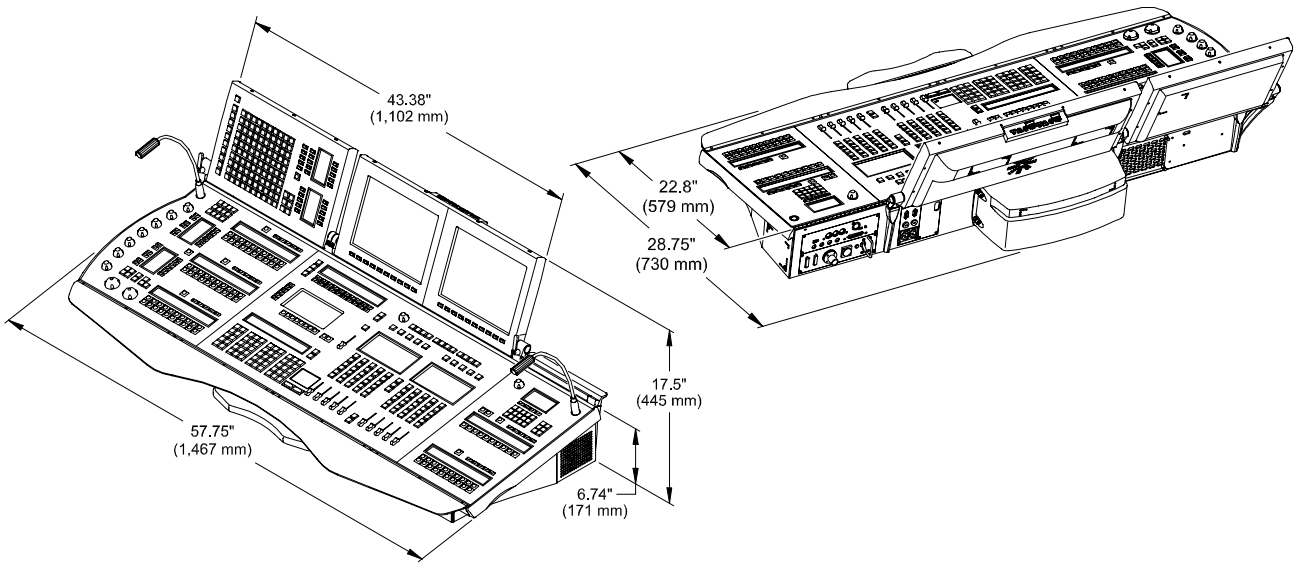
Zero An intensity state of zero ("hard zero", 0% level). A luminaire that is *zero* will only store intensity data, which is stored as a "hard zero" (0% level) along with the luminaire's intensity down time. When a cue is recalled, a zero luminaire will fade out with the luminaire's intensity down time. It will not change any other parameter positions because there is no data stored for them.

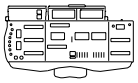
Notes

APPENDIX C.

Technical Specifications

Virtuoso Console





Weight

Includes console and built-in monitors:

120 pounds (54.4 kg)

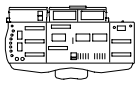
Power Requirements

Voltage Range:

110 Mode, 85 to 130 VAC
220 Mode, 170 to 260 VAC

Current Requirement:

110 Mode 3.5 A
220 Mode 2.5 A



System Capacity

Control of 2,000 multiple parameter luminaires
2,000-10,000 cues per fixture (luminaire dependent)
1,000 presets
1,000 effects
100 beam selects
300 color selects
1000 group selects
1,000 board cues
1,000 macros
1,200 snapshots
30 submasters (in 3 pages)
26 DMX universes

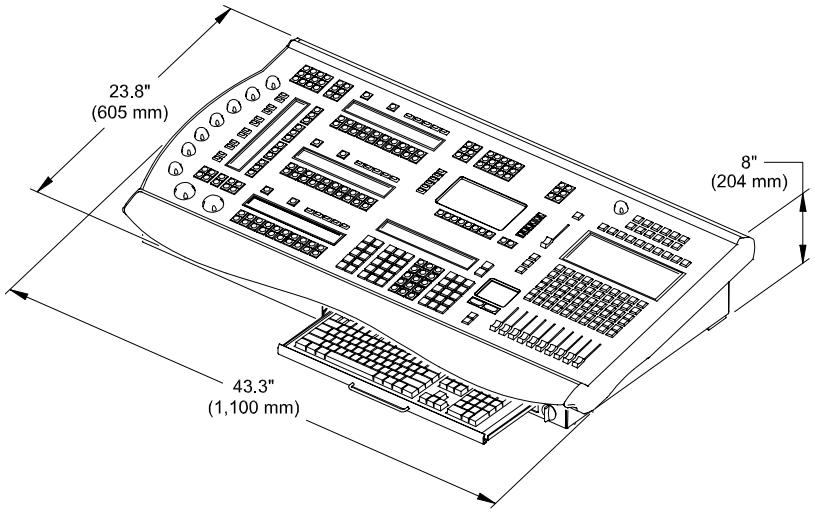
Interface Support

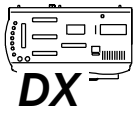
Virtuoso protocol
SMPTE Time Code input
MIDI Time Code input
MIDI Notes input
External Trigger (switch closure) for Board Cue Go

Optional Equipment Support

Up to two additional CRT monitors
Additional consoles
External mouse/trackball
Additional Network Interface Units
Universal DMX Modules

Virtuoso DX Console





Weight

Includes console, Macintosh G4 computer and 15" monitor:

106.5 lbs (48.3 kg)

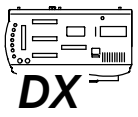
Power Requirements

Console:

2.0 A at 120 V 50/60 Hz
1.0 A at 240 V 50/60 Hz

Macintosh G4 computer and 15" monitor:

8.0 A at 120 V 50/60 Hz
4.5 A at 240 V 50/60 Hz



System Capacity

Control of 2,000 multiple parameter luminaires
2,000-10,000 cues per fixture (luminaire dependent)
1,000 presets
1,000 effects
100 beam selects
300 color selects
1000 group selects
1,000 board cues
1,000 macros
1,200 snapshots
30 submasters (in 3 pages)
26 DMX universes

Interface Support

8 DMX universes
Copper and fiber-optic Ethernet connections for Virtuoso protocol
SMPTE Time Code input
MIDI Time Code input
MIDI Notes input
External Trigger (switch closure) for Board Cue Go

Optional Equipment Support

Up to three additional monitors
Channel Select Panel
USB printer

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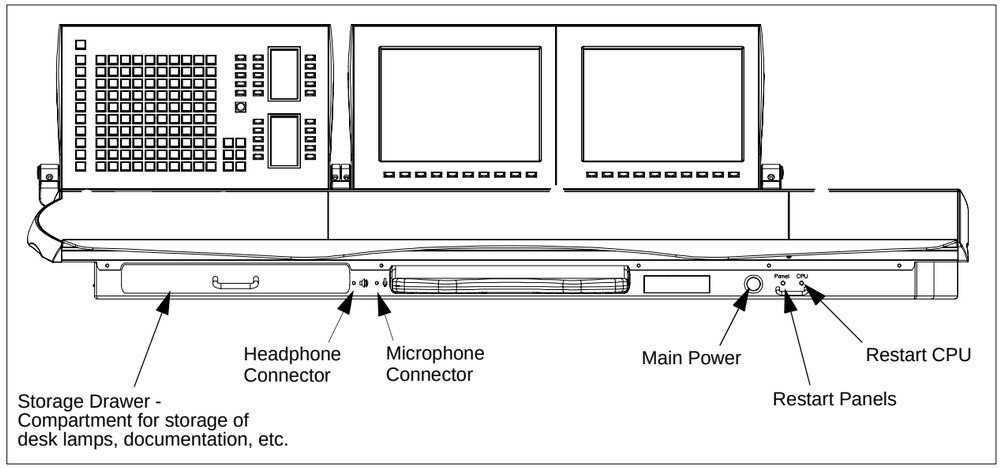
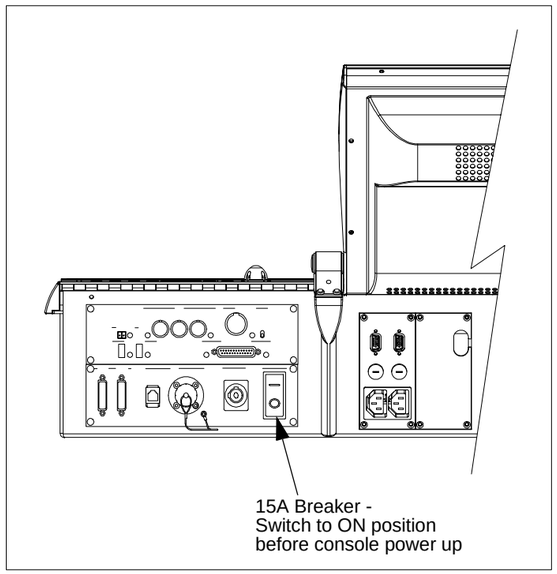
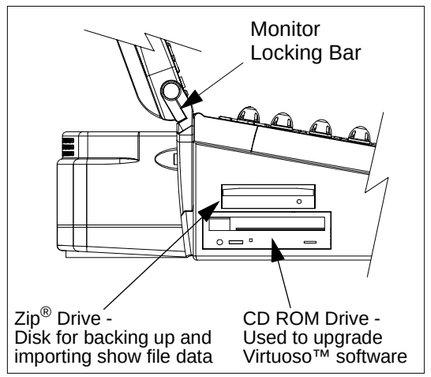
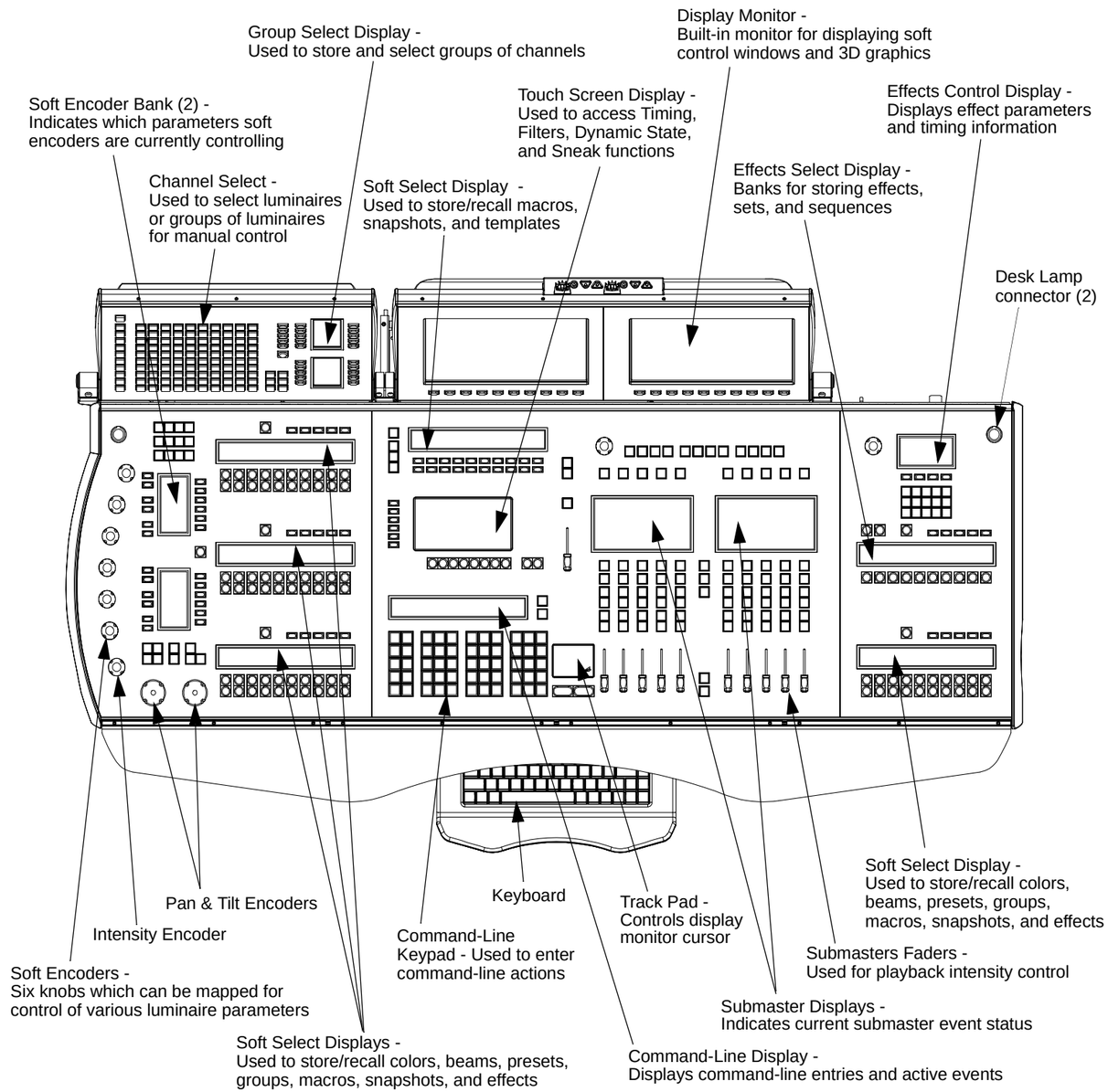
Virtuoso Console Overview









Virtuoso Channel Select

Quick Reference

Common operations and guidelines for using the Channel Select panel.

Select a single channel (or multiple single channels):

Step 1. Press [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of channel number to be selected. Button will light.

Step 4. To select multiple single channels, continue selecting channels (channel selections "pile on").

Example:
To select channel 521, ensure that [1000] button is not active, press the page [500] button and then press [21] on the 100-button array.

Select a range of channels:

Step 1. Press [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of first channel number to be selected. Then, while holding down first button, press button of last number in range. First and last buttons will light, as will all those in-between.

Select channels on multiple pages:

Step 1. Press [1000] as required.

Step 2. Press [0] through [900] as required. Button will light.

Step 3. Press button of first channel number to be selected. Then, while holding down first button, press button of last number in range. First and last buttons will light, as will all those in-between.

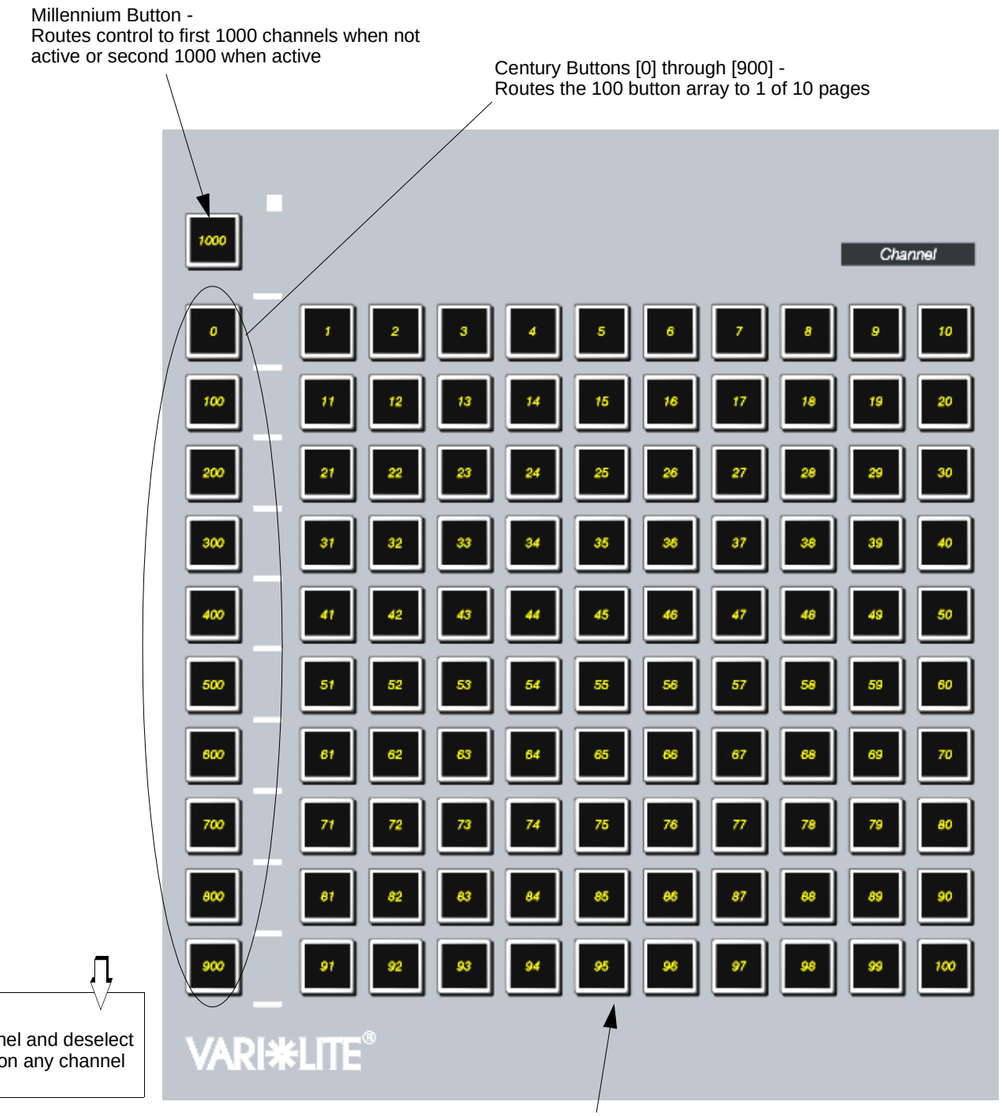
Step 4. Press next required page ([0] through [900]). First page number button will flash to show that channels are selected on that page.

Step 5. Press buttons for channels to be selected.

Step 6. Repeat Steps 3 through 5 as required.

Deselect a single individual channels or ranges:

- Press any selected channel button(s) to deselect.
- Press button of first selected channel button to be deselected. Then, while holding down first button, press button of last number in range. The range will be deselected.



Shortcut

To select a single channel and deselect all others, double-click on any channel button.

Virtuoso Group Select

Quick Reference

Common operations and guidelines for using the Group Select portion of the Channel Select Panel.

Store a group:

Step 1. Select channels to be stored in group.

Step 2. Access required Bank and Page.

Step 3. Press [Store] / [Group Select Button].

Label a group:

When labeling, the [xxxxxx] is entered on the alpha-numeric keyboard. The [return] button is also located on the keyboard.

- [Label] / [Group Select Button] [xxxxxx] [return].

Recall a group:

Step 1. Access required Bank and Page.

Step 2. Press required [Group Select Button].

Recall two or more groups:

Step 1. Access required Bank and Page of first group.

Step 2. Press required [Group Select Button].

Step 3. Access required Bank and Page of second group.

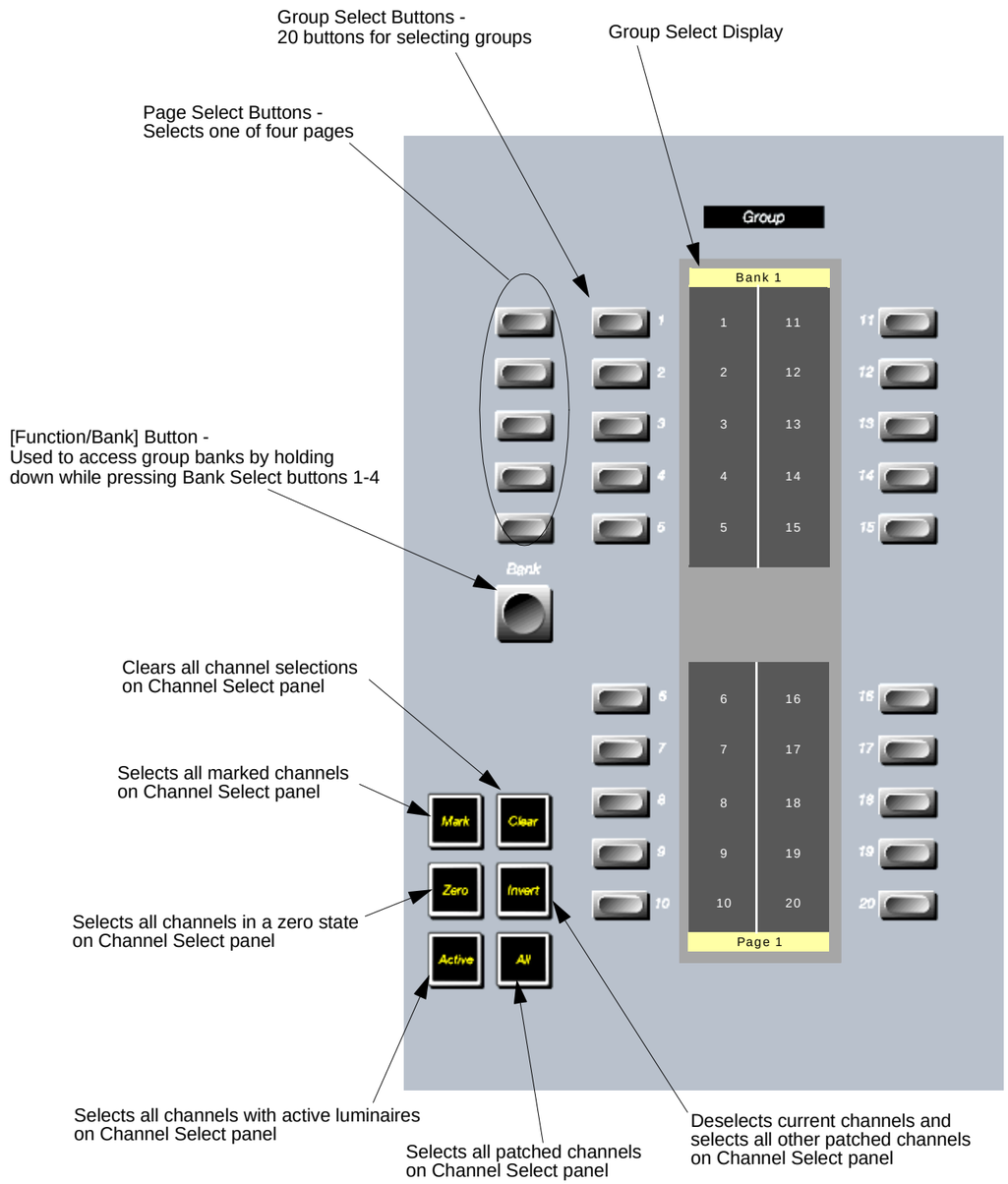
Step 4. Press required [Group Select Button] of second group. (Hold down [Page Button] to pile-on selections.)

Step 5. Repeat Steps 3 and 4 as required.

Modify a group:

Modifications to existing groups can be done in the same manner as storing the original group as given above.

Note: When an existing group is re-stored, the new information replaces the old information. It does not add to the existing group information.



Virtuoso Manual Control

Quick Reference

Common operations and guidelines for using Manual Control panel.

Intensity State Buttons:

- [Full] sets selected luminaires to full intensity (100%).
- [Out] sets selected luminaires to an *out* or *inactive* state (no parameter data, 0% level).
- [Mark] sets selected luminaires to a *marked* state (0% level).
- [Zero] sets selected luminaires to zero intensity ("hard zero", 0%).
- Shutter [Open] and [Closed] is used with luminaire strobe or douser mechanisms.

Pan and Tilt:

- [Flip] causes selected luminaires to pan and tilt until the head is pointing in the same direction as before. The head assembly pans 180 degrees and tilts as required so that the head points in the same direction. (DMX moving mirror luminaires will not respond to this command.)
- [Next] and [Last] increment or decrement channel selection (based on the default setting).

Special encoder functions accessed w/ [Shift] button:

- **COLOR**
  Encoder 4 - WHEEL SPIN
- **IMAGE**
  Encoder 1 - WHEEL SPIN, Encoder 2 - ROTATING SPIN, Encoder 3 - ROTATE, Encoder 4 - EFFECTS SPIN, Encoder 5 - EFFECTS ROTATE, Encoder 6 - ZOOM

Store a new min/max setting:

Step 1. Press button for required function. It will be mapped to soft encoders.

Step 2. Select luminaires to be included in min/max setting. (For example, select all VL6 luminaires.)

Step 3. Using encoders, adjust parameter for new setting.

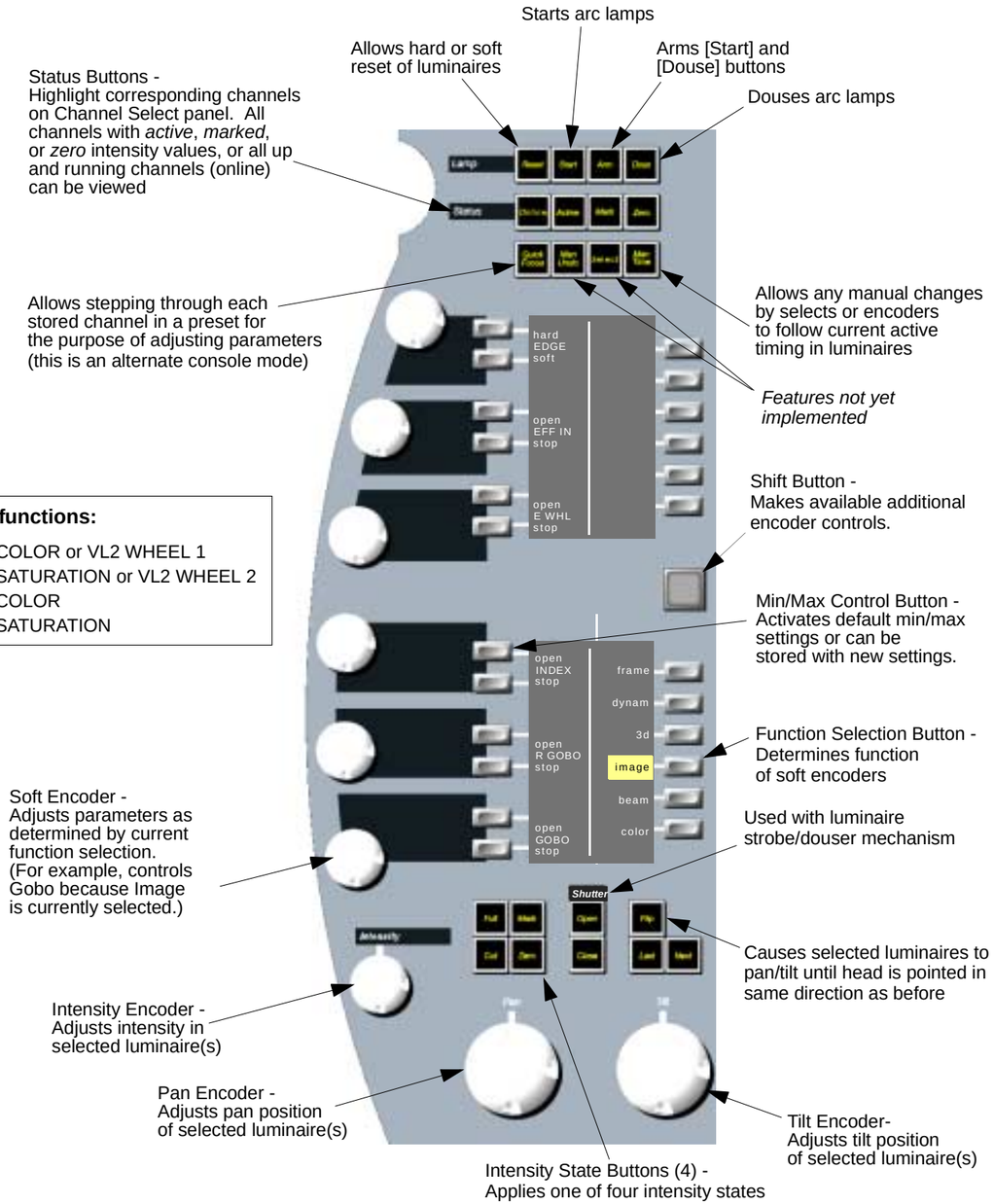
Step 4. Press [Store] / [Encoder Min/Max Button]. Setting is now stored.

Start/Douse and Reset Functions:

- Start and douse will function for all arc luminaires with remote start/douse capability.
- Reset returns selected luminaires to home position and re-downloads data *and* operating system.

Special color encoder functions:

Encoder 1 - VL7 PLATE 1 COLOR or VL2 WHEEL 1
Encoder 2 - VL7 PLATE 1 SATURATION or VL2 WHEEL 2
Encoder 3 - VL7 PLATE 2 COLOR
Encoder 4 - VL7 PLATE 2 SATURATION


Starts arc lamps
Allows hard or soft reset of luminaires
Arms [Start] and [Douse] buttons
Douses arc lamps
Status Buttons - Highlight corresponding channels on Channel Select panel. All channels with active, marked, or zero intensity values, or all up and running channels (online) can be viewed
Allows stepping through each stored channel in a preset for the purpose of adjusting parameters (this is an alternate console mode)
Allows any manual changes by selects or encoders to follow current active timing in luminaires
Features not yet implemented
Shift Button - Makes available additional encoder controls.
Min/Max Control Button - Activates default min/max settings or can be stored with new settings.
Function Selection Button - Determines function of soft encoders
Used with luminaire strobe/douser mechanism
Causes selected luminaires to pan/tilt until head is pointed in same direction as before
Soft Encoder - Adjusts parameters as determined by current function selection. (For example, controls Gobo because Image is currently selected.)
Intensity Encoder - Adjusts intensity in selected luminaire(s)
Pan Encoder - Adjusts pan position of selected luminaire(s)
Tilt Encoder- Adjusts tilt position of selected luminaire(s)
Intensity State Buttons (4) - Applies one of four intensity states
Lamp
Status
hard
EDGE
soft
open
EFF IN
stop
open
E WHL
stop
open
INDEX
stop
open
R GOBO
stop
open
GOBO
stop
frame
dynam
3d
image
beam
color
Shutter
Intensity
Pan
Tilt

Virtuoso Soft Select Displays

Quick Reference

Soft select displays are provided for storing Preset, Color, Beam, Group, Macro, Snapshot, and Effect parameters. The parameter data can be recalled with a single press of the appropriate select button for the purpose of building consistent cues.

Common operations and guidelines for using Soft Select Displays:

Access a different bank within a select display:

- Press and hold [Bank/Function] button while pressing the buttons labeled [11] through [20] to change banks in increments of 100. Each bank will provide 20 select buttons per page.

Access a different page within a select display:

- Press desired page button (1 through 5) at top of select display.

Access a different select in any display window:

- At select display, press and hold [Bank/Function] while pressing [Beams], [Colors], [Presets], [Groups], [Groups], [Macros], [Snaps], or [Effects] as required.

Store a new select:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using touch screen display.

Step 4. Press [Store] / [Select Button] - where Select Button is color, beam, preset, group, macro, snapshot, or effect as required.

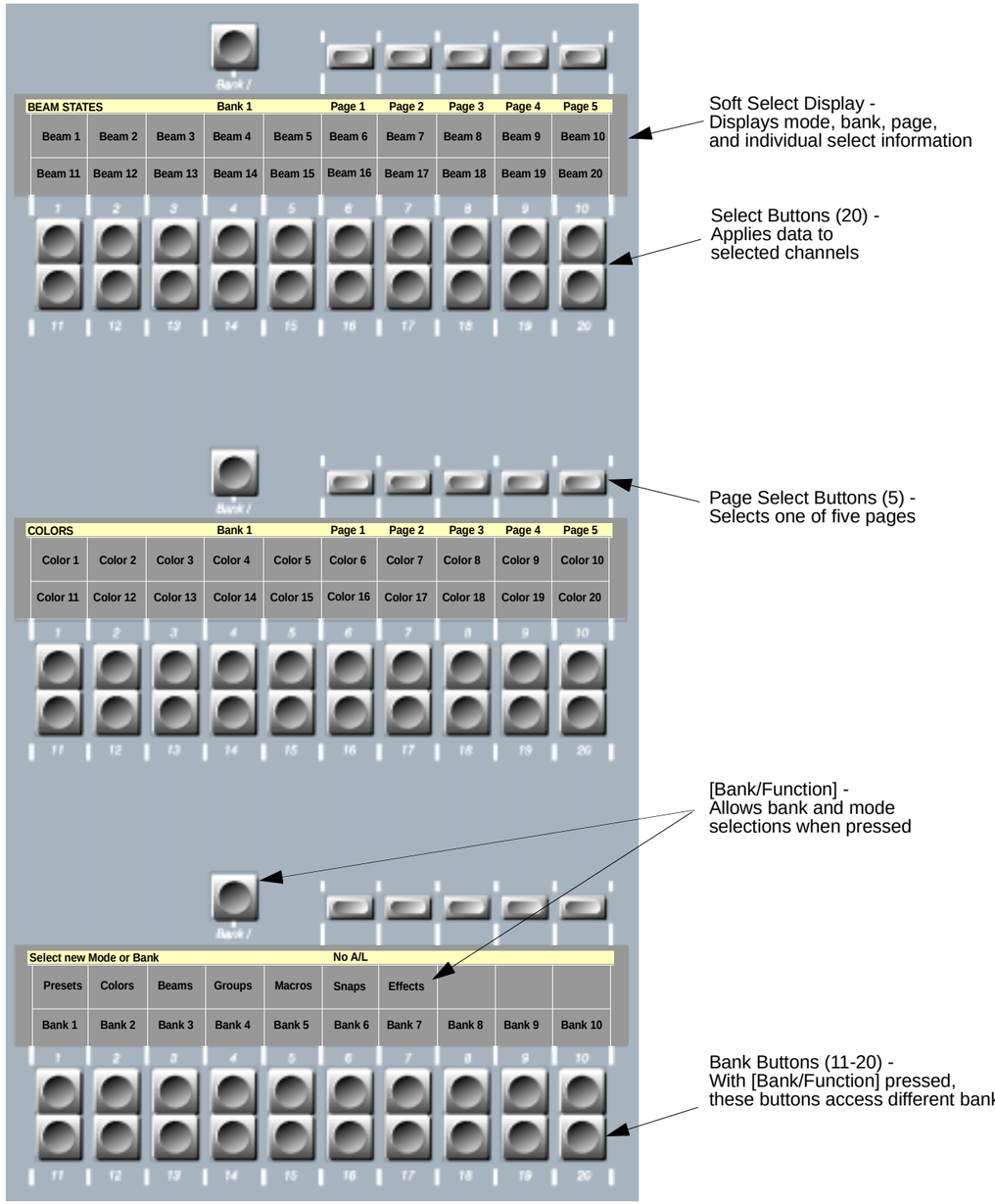
Label a select:

- Press [Label] / [Select Button] [xxxxxx] [return].

Recall a stored select:

Step 1. Select required channels (only selected channels that have data stored in that select will be affected).

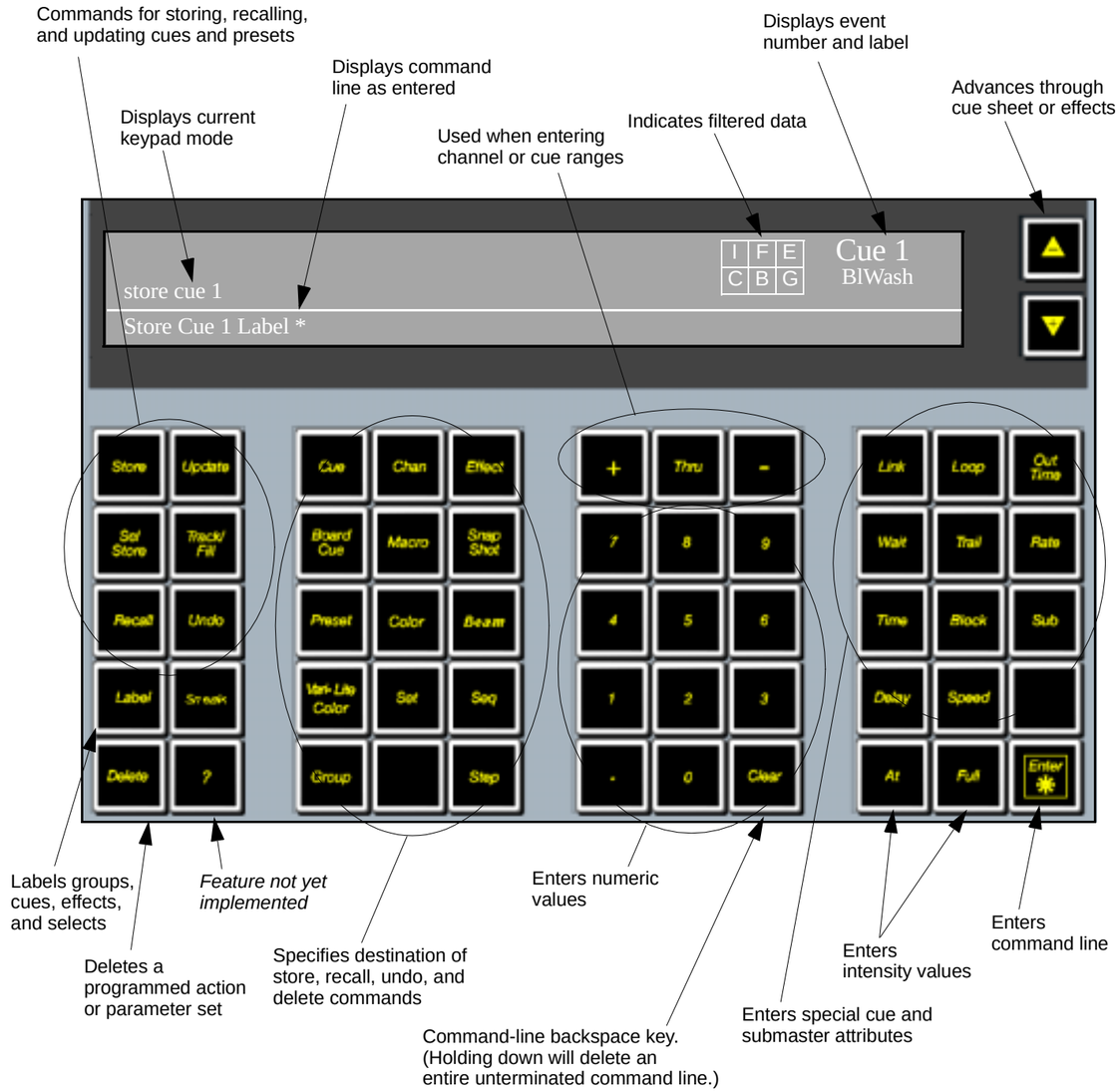
Step 2. Press required [Select Button] - where Select Button is color, beam, preset, group, macro, snapshot, or effect as required.



Virtuoso Command-Line Keypad

Quick Reference

[At] . . . . . Enters an intensity value. *Example*: <Chan> [5] [At] [7] [5] [Enter].
[Beam] . . . . Stores or recalls a beam state. *Example*: <Chan> [5] [Beam] [2] [0] [Enter].
[Block] . . . . *Feature not yet implemented.*
[Board Cue] Stores or recalls a board cue. *Example*: [Board Cue] [5] [Enter].
[Chan]. . . . . Selects a channel or a range of channels. *Example*: [Chan] [5] [Enter].
[Clear] . . . . Clears command-line entries. Holding down will clear an entire unterminated command line.
[Color] . . . . Stores or recalls a color. *Example*: <Chan> [5] [Color] [3] [0] [Enter].
[Cue]. . . . . Stores or recalls a cue. *Example*: [Store] [Cue] [5] [Enter].
[Delay] . . . . Adds a countdown time to a luminaire parameter (used with touch screen). *Example*: [Delay] [1] [Enter].
[Delete]. . . . Deletes a soft select, cue, effect, group, etc. *Example*: [Delete] [Group] [5] [Enter].
[Effect] . . . . Recalls an effect. *Example*: [Effect] [5] [Enter].
[Full]. . . . . Sets intensity value to 100%. *Example*: <Chan> [5] [Full] [Enter].
[Group]. . . . Stores or recalls a group. *Example*: <Chan> [1] [Thru] [9] [Store] [Group] [5] [Enter].
[Label] . . . . Used to label cues, groups, macros, effects, etc. *Example*: [Store] [Beam] [5] [Label] [Enter] [xxxxxx] [return].
[Link] . . . . . Links together cues, effects, snapshots, and macros for auto playback. *Example*: <Cue> [2] [Link] [Macro] [3] [Enter].
[Loop]. . . . . Defines the number of times a linked sequence of cues is to execute. *Example*: <Cue> [5] [Loop] [9] [Enter].
[Macro]. . . . Stores or recalls a Macro (requires additional button presses during store). *Example*: [Store] [Macro] [Enter].
[Out Time] . Defines an intensity fade out time. *Example*: [Store] <Cue> [5] [Out Time] [7] [Enter].
[Preset] . . . . Stores or recalls a preset. *Example*: <Chan> [5] [Preset] [7] [Enter].
[Rate] . . . . . Alters recorded time/speed attributes for cues, board cues, or effects. *Example*: [Store] <Cue> [5] [Rate] [5] [0] [Enter].
[Recall]. . . . Recalls specific data from a cue, preset, or beam state (used with filters). *Example*: [Recall] <Cue> [m] [Enter].
[Sel Store] . Modifies/adds parameter data to a cue, preset, or beam for specified channels. *Example*: [Sel Store] <Cue> [5] [Enter].
[Seq]. . . . . Can be used when programming an effect. *Example*: [Effect] [3] [Seq] [4] [Enter].
[Set] . . . . . Can be used when programming an effect. *Example*: [Effect] [3] [Set] [4] [Enter].
[Snap Shot]. Stores or recalls a snapshot (used with Snapshot Filter window). *Example*: [Store] [Snap Shot] [5] [Enter].
[Sneak] . . . . Works with Sneak Mode to provide manual control of luminaires. *Example*: [Sneak] [5] [5].
[Speed] . . . . Sets rate of change for a luminaire parameter (used with touch screen). *Example*: [Speed] [1] [Enter].
[Step] . . . . . Stores an action into a step (component of an effect sequence). *Example*: [Step] [1] [Cue] [n] [Enter].
[Store]. . . . . Initiates store actions. *Example*: [Store] [Cue] [2] [3] [Enter].
[Sub]. . . . . Loads a linked cue into a specific submaster. *Example*: [Store] <Cue> [5] [Link] [2] [0] [Sub] [4] [Enter].
[Thru] . . . . . Defines a range selection. *Example*: <Chan> [1] [Thru] [5] [Enter].
[Time]. . . . . Enters a parameter time value (used with touch screen). *Example*: [Time] [1] [.] [.] [3][Enter].
[Track/Fill] . *Feature not yet implemented.*
[Trail] . . . . . Adds a trail time to a cue. *Example*: [Store] <Cue> [5] [Trail] [1] [Enter].
[Undo] . . . . Reverses the last store, update, or delete action. *Example*: [Undo] [Enter].
[Update] . . . Stores modified channels back into their source cues. *Example*: [Update] <Cue> [5] [Enter].
[VL Color] . Stores or recalls a color based on VARI*LITE color palette. *Example*: <Chan> [6] [Vari-Lite Color] [1] [0] [1] [Enter].
[Wait] . . . . . Adds a wait time to a cue. *Example*: [Store] <Cue> [5] [Wait] [1] [Enter].
[?]. . . . . *Feature not yet implemented.*



Virtuoso Submasters

Quick Reference

Common operations and guidelines for using Submasters panel.

Play a cue or effect:

Step 1. At keypad, press [Cue] [n] [Enter] or scroll through cue list to recall a cue, or press [Effect] [n] [Enter] or select effect at an Effect select display.

Step 2. At desired submaster, press [Select] to select submaster for playback function.

Step 3. Press [Load] to place cue/effect in submaster's pending file.

Step 4. Ensure Grand Master and submaster faders are set at full.

Step 5. Press [Go] to play.

Play next cue or effect:

- Press [Go] to play back pending event.

Play previous cue or effect:

- Press [Back] to play previous event.

Stop/Step:

Step 1. Press [Stop/Step] to stop a running autofollow.

Step 2. Press [Stop/Step] repeatedly to step through cues without autofollows.

Step 3. Press [Run] to resume playback with autofollows.

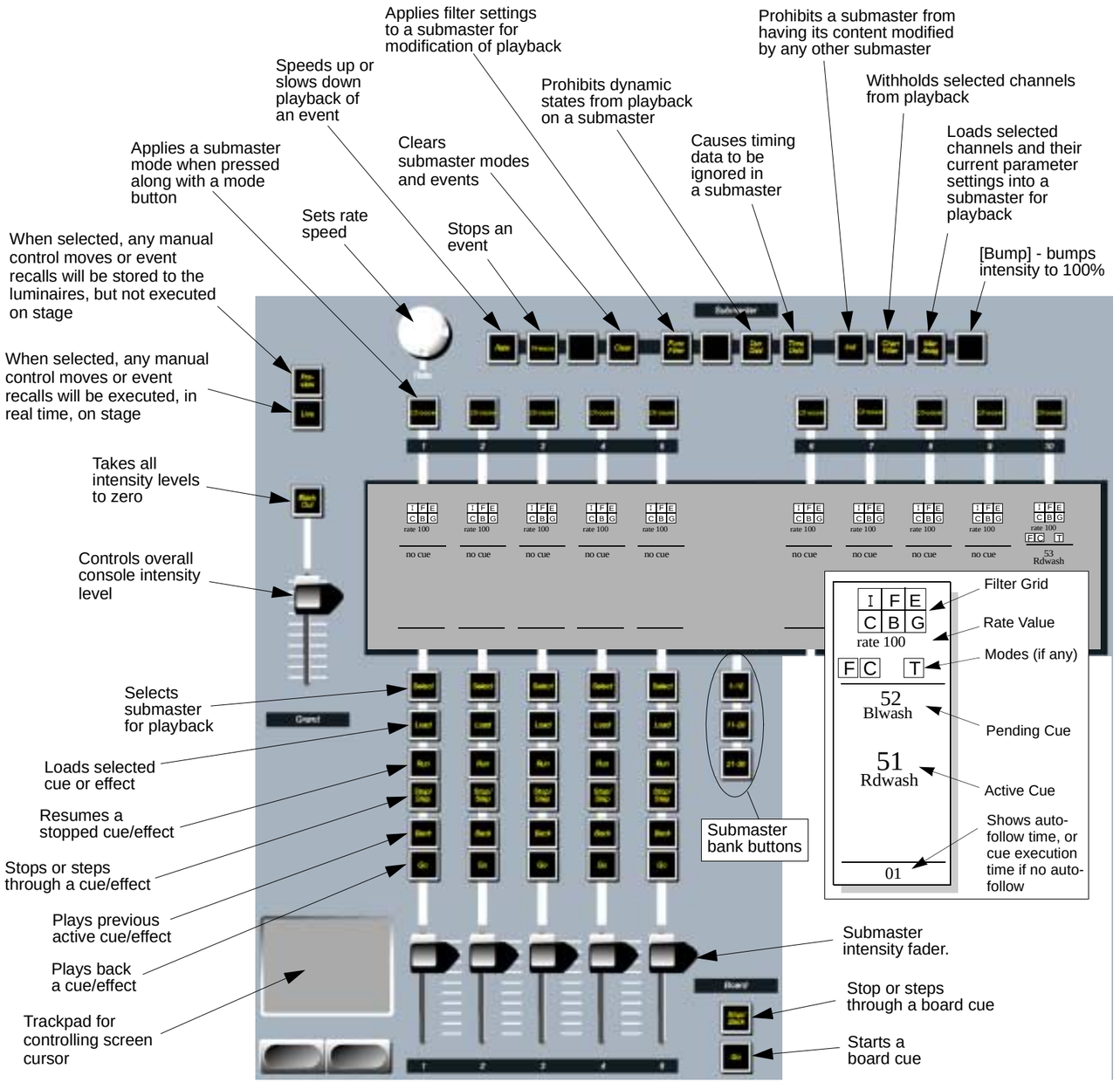
[Choose] and [Clear] buttons:

- [Choose], when pressed with any of the submaster mode buttons, allows the submaster to be placed into one of the following modes: Rate, Freeze, Function Filter, Channel Filter, Dynamic Disable, Time Disable, Independent, and Manual Assign.
- [Clear] releases a submaster from an applied mode, returning it to its default state. To release a submaster from a mode, press [Clear] along with the [Choose] button for the required submaster.

Intensity:

Final playback intensity is determined by following combination (in order):

1. Intensity value stored in the cue or effect being played back.
2. Fader setting of the submaster being used to playback the event.
3. Setting of the Grand Master fader or associated [Black Out] button.


Applies filter settings to a submaster for modification of playback
Prohibits a submaster from having its content modified by any other submaster
Speeds up or slows down playback of an event
Prohibits dynamic states from playback on a submaster
Withholds selected channels from playback
Applies a submaster mode when pressed along with a mode button
Clears submaster modes and events
Causes timing data to be ignored in a submaster
Loads selected channels and their current parameter settings into a submaster for playback
Sets rate speed
Stops an event
[Bump] - bumps intensity to 100%
When selected, any manual control moves or event recalls will be stored to the luminaires, but not executed on stage
When selected, any manual control moves or event recalls will be executed, in real time, on stage
Takes all intensity levels to zero
Controls overall console intensity level
Selects submaster for playback
Loads selected cue or effect
Resumes a stopped cue/effect
Stops or steps through a cue/effect
Plays previous active cue/effect
Plays back a cue/effect
Trackpad for controlling screen cursor
Submaster bank buttons
Filter Grid
Rate Value
Modes (if any)
Pending Cue
Active Cue
Shows auto-follow time, or cue execution time if no auto-follow
Submaster intensity fader.
Stop or steps through a board cue
Starts a board cue
rate 100
52
Blwash
51
Rdwash
01

Virtuoso Effects

Quick Reference

- **Effects** are made up of **sets** and **sequences**.
- A **set** consists of one or more **parts**..
- A **sequence** consists of one or more **steps**.

Create a set:

Step 1. Press [Set], then press [Set Select Button] of set number you wish to create.

Step 2. Press [Edit]. (Display switches to Parts bank for set number selected in previous step.)

Step 3. Load channels into individual parts:

a. At Channel Select panel or keypad, select channels you wish store in part.

b. At Effects panel, press [Store] / [Part Select Button]. (Channels will appear in display.)

c. Repeat Steps a and b to store channels into parts 2, 3, 4, etc. as required. (Channels can only be used once in a set.)

Load channels across a range of parts:

a. At Channel Select panel or keypad, select channels you wish store into set.

b. At Effects panel press [Int/Seq] to load sequentially or leave unselected to load interlaced.

c. Press [Store] / [Part 1 Select Button], then while continuing to hold [Store], press [Part 2 Select Button] etc. to specify a range of parts which will contain the channels. Channels will load across parts when [Store] is released.

Step 4. Press [Edit] again to return to Sets bank.

Create a sequence:

Step 1. Press [Seq], then press [Sequence Select Button] of sequence number you wish to create.

Step 2. Press [Edit]. (Display switches to Steps bank for sequence number selected in previous step.)

Step 3. Do one of the following or a combination:

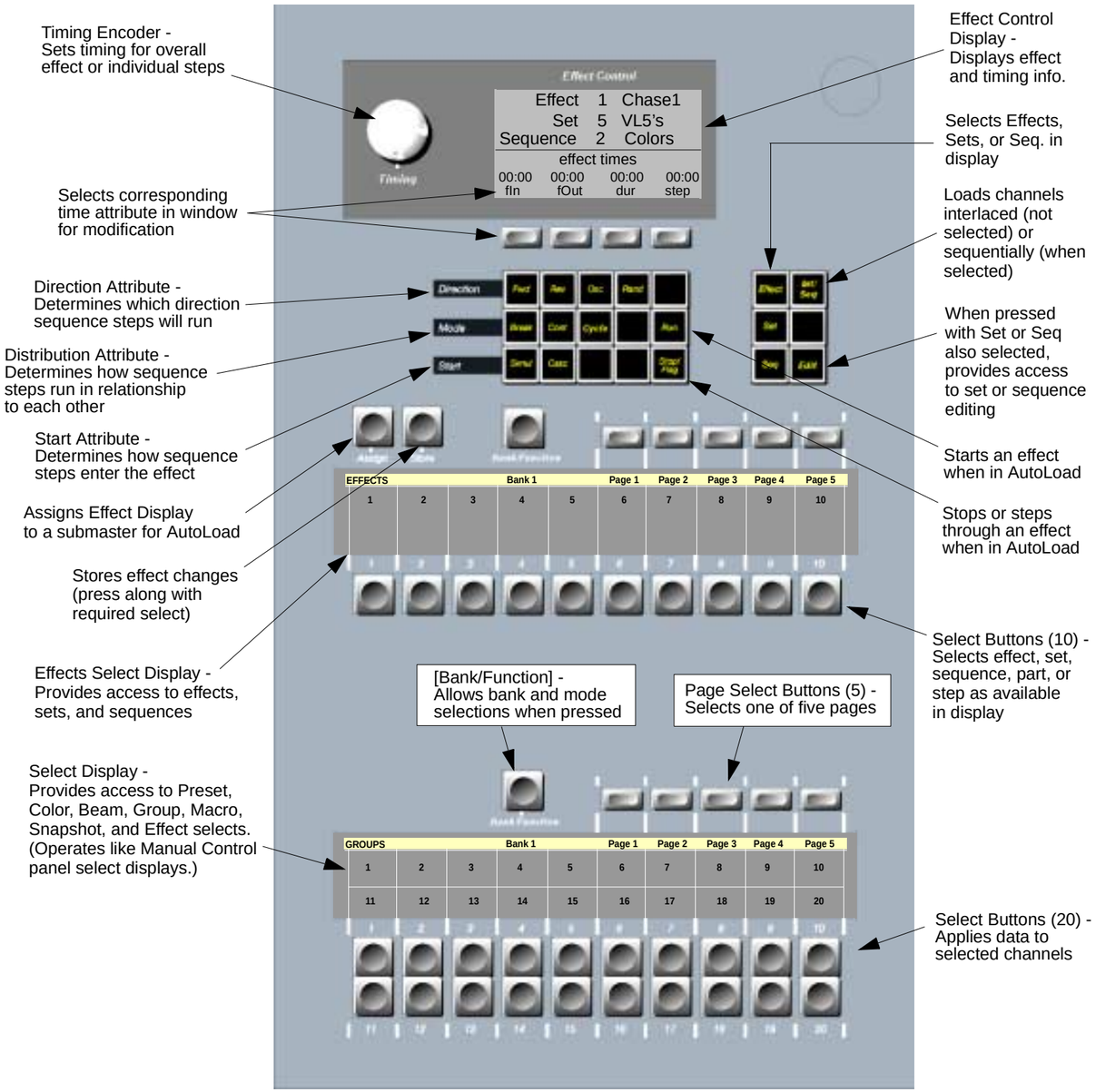
a. At keypad, press [Step] [1] [Cue*] [n] [Enter].
* Preset, Color, Beam, etc. can be used instead of Cue.

b. At keypad, press [Step] [1] [Cue] [n] [Thru] [x] [Enter].

c. At Effects panel, press [Step 1 Select Button]. Press [Store] along with [Preset* Select Button] or [Stop Flag].
* Color, Beam, etc. can be used instead of Preset.

Step 4. Repeat Step 4 to store steps 2, 3, 4 ...

Step 5. Press [Edit] again to return to Sequences bank.


Timing Encoder - Sets timing for overall effect or individual steps
Effect Control Display - Displays effect and timing info.
Effect 1 Chase1
Set 5 VL5's
Sequence 2 Colors
effect times
00:00 fIn
00:00 fOut
00:00 dur
00:00 step
Selects Effects, Sets, or Seq. in display
Selects corresponding time attribute in window for modification
Loads channels interlaced (not selected) or sequentially (when selected)
Direction Attribute - Determines which direction sequence steps will run
Mode
Start
When pressed with Set or Seq also selected, provides access to set or sequence editing
Distribution Attribute - Determines how sequence steps run in relationship to each other
Start Attribute - Determines how sequence steps enter the effect
Starts an effect when in AutoLoad
Assigns Effect Display to a submaster for AutoLoad
Stops or steps through an effect when in AutoLoad
Stores effect changes (press along with required select)
Select Buttons (10) - Selects effect, set, sequence, part, or step as available in display
Effects Select Display - Provides access to effects, sets, and sequences
[Bank/Function] - Allows bank and mode selections when pressed
Page Select Buttons (5) - Selects one of five pages
Select Display - Provides access to Preset, Color, Beam, Group, Macro, Snapshot, and Effect selects. (Operates like Manual Control panel select displays.)
EFFECTS
Bank 1
Page 1
Page 2
Page 3
Page 4
Page 5
GROUPS
Select Buttons (20) - Applies data to selected channels

Virtuoso Touch Screen & Macro/Snapshot/Template Display

Quick Reference

Common operations and guidelines for using Timing and Filter functions.

TIMING

Set an entire timing scheme:

Step 1. At touch screen, select a parameter(s) with hard or soft buttons.

Step 2. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value. Time value will appear in cells of selected parameters at touch screen.

Step 3. Repeat steps 1 and 2, selecting different parameters and entering new values.

Step 4. Select channels as required.

Step 5. Press Timing [Enter] button to send all values in screen.

Send a timing value directly to a selected parameter:

Step 1. Select channels as required.

Step 2. At touch screen, select a parameter with hard or soft buttons.

Step 3. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value and then [Enter]. Time value will appear in cell of selected parameter at touch screen and be sent directly to selected channels.

FILTERS

Using filters while storing cues:

Step 1. Set filters as required. (When filters are selected (highlighted), the associated parameters will be the only parameters stored during any subsequent cue store operations. When filters are deselected (not highlighted), the associated parameters will *not* be stored during any subsequent cue store operations.)

Step 2. Press filter [To Cue]. The filter state will be applied to all cues stored from this point on, until changed.

Step 3. Store cue as usual.

Time Format

Time is entered at the keypad in minutes and seconds, seconds, or seconds and tenths of seconds. (Max time 59:59)

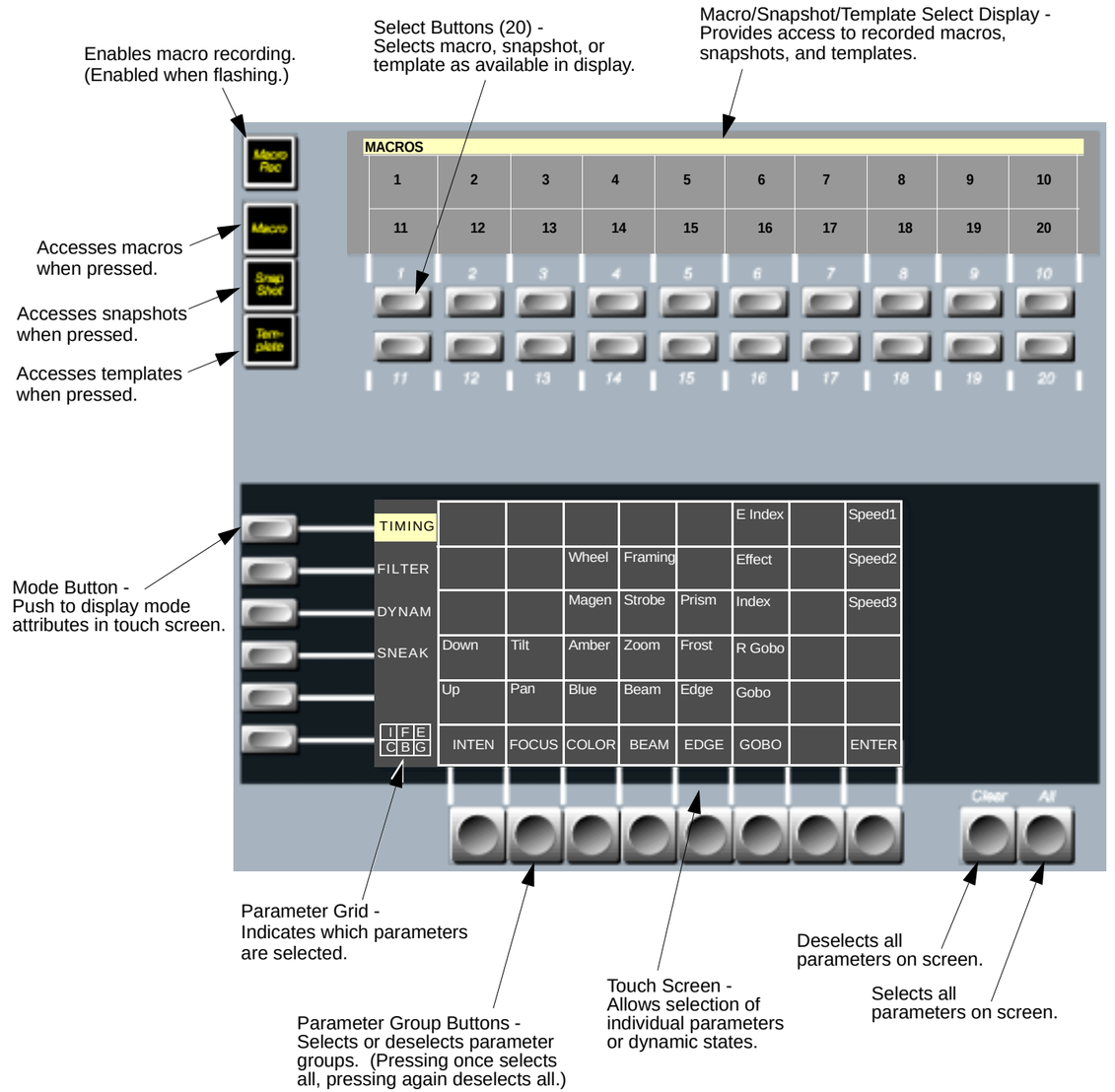
Examples :

[2] [5] = 25.0 (25 sec)
[2] [.] [.] [5] = 2:05 (2 min, 5 sec)
[1] [.] [3] = 1.3 (1.3 sec)
[.] [5] = .5 (1/2 sec)

Speed Format

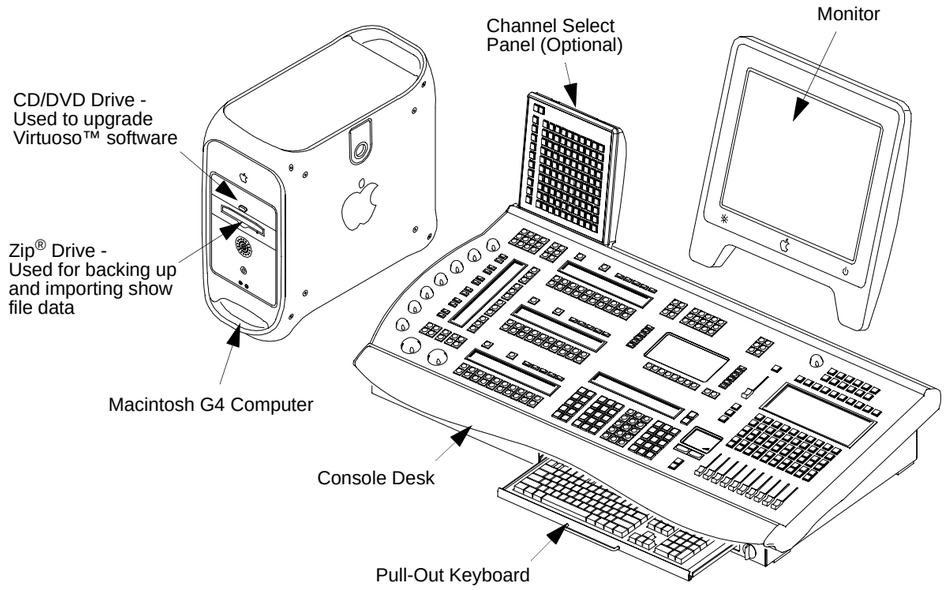
Speed is entered at the keypad in degrees per second.

Luminaire	Rate	Max Speed
VL2	120	200
VL4	240	400
VL5	220	400
VL6/VLM	280	400
VL7	150	400

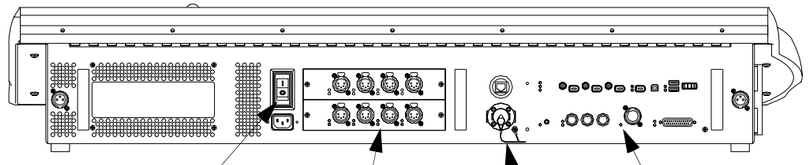

Enables macro recording. (Enabled when flashing.)
Select Buttons (20) - Selects macro, snapshot, or template as available in display.
Macro/Snapshot/Template Select Display - Provides access to recorded macros, snapshots, and templates.
Accesses macros when pressed.
Accesses snapshots when pressed.
Accesses templates when pressed.
Mode Button - Push to display mode attributes in touch screen.
Parameter Grid - Indicates which parameters are selected.
Parameter Group Buttons - Selects or deselects parameter groups. (Pressing once selects all, pressing again deselects all.)
Touch Screen - Allows selection of individual parameters or dynamic states.
Deselects all parameters on screen.
Selects all parameters on screen.
MACROS
Macro Rec
Macro
Snap Shot
Tem-plate
TIMING
FILTER
DYNAM
SNEAK
I F E C B G
INTEN
FOCUS
COLOR
BEAM
EDGE
GOBO
ENTER
Clear
All

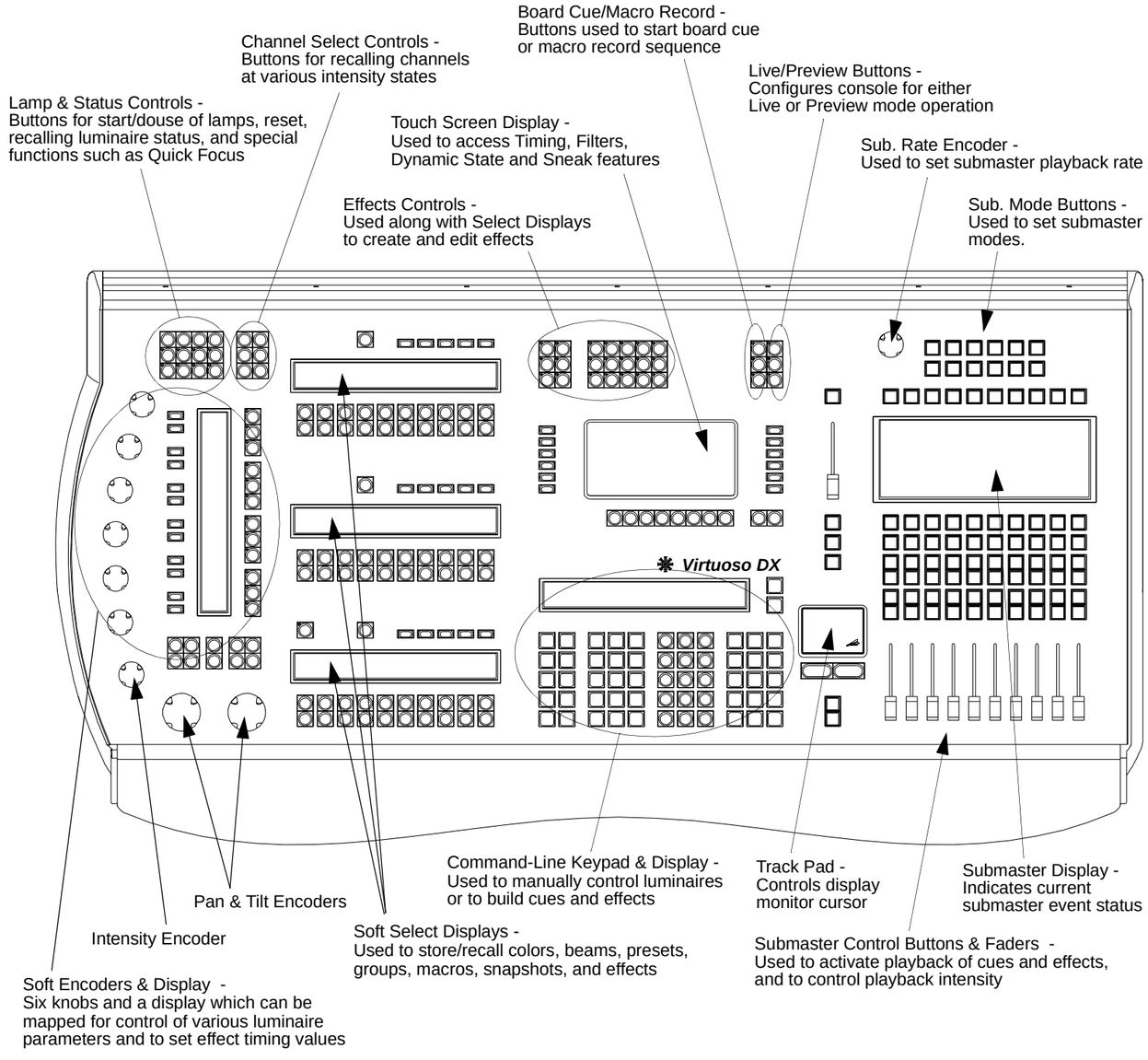
Virtuoso DX Console Overview

Console Components

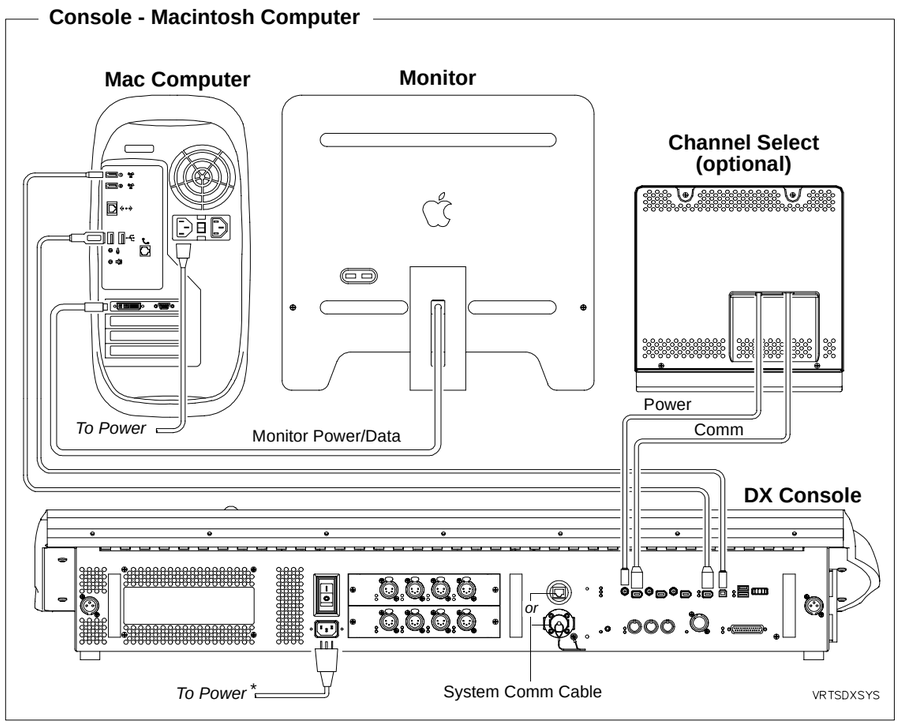

Channel Select Panel (Optional)
Monitor
CD/DVD Drive - Used to upgrade Virtuoso™ software
Zip® Drive - Used for backing up and importing show file data
Macintosh G4 Computer
Console Desk
Pull-Out Keyboard

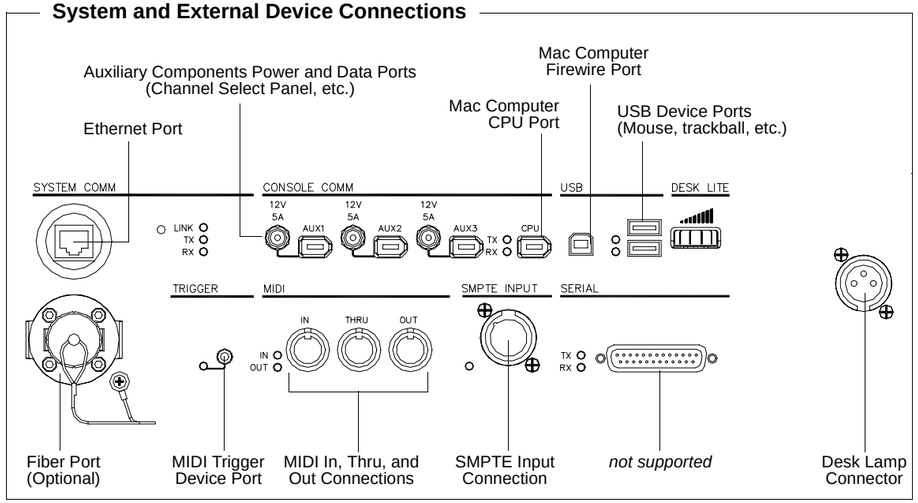
Console Rear Panel

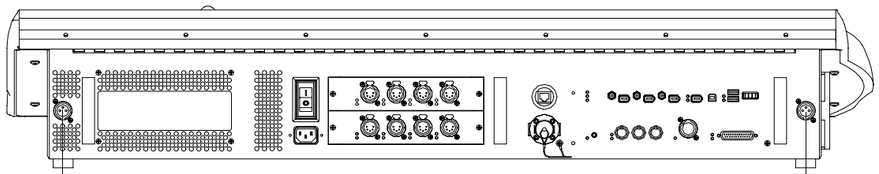

15A Breaker - Switch to ON position before console power up
DMX Universe Connections
System Connections
External Device Connections

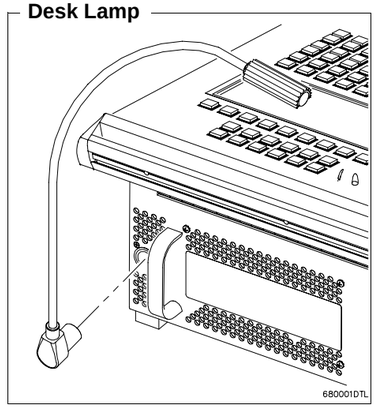

Board Cue/Macro Record - Buttons used to start board cue or macro record sequence
Channel Select Controls - Buttons for recalling channels at various intensity states
Live/Preview Buttons - Configures console for either Live or Preview mode operation
Lamp & Status Controls - Buttons for start/douse of lamps, reset, recalling luminaire status, and special functions such as Quick Focus
Touch Screen Display - Used to access Timing, Filters, Dynamic State and Sneak features
Sub. Rate Encoder - Used to set submaster playback rate
Effects Controls - Used along with Select Displays to create and edit effects
Sub. Mode Buttons - Used to set submaster modes.
Virtuoso DX
Command-Line Keypad & Display - Used to manually control luminaires or to build cues and effects
Track Pad - Controls display monitor cursor
Submaster Display - Indicates current submaster event status
Pan & Tilt Encoders
Intensity Encoder
Soft Select Displays - Used to store/recall colors, beams, presets, groups, macros, snapshots, and effects
Submaster Control Buttons & Faders - Used to activate playback of cues and effects, and to control playback intensity
Soft Encoders & Display - Six knobs and a display which can be mapped for control of various luminaire parameters and to set effect timing values

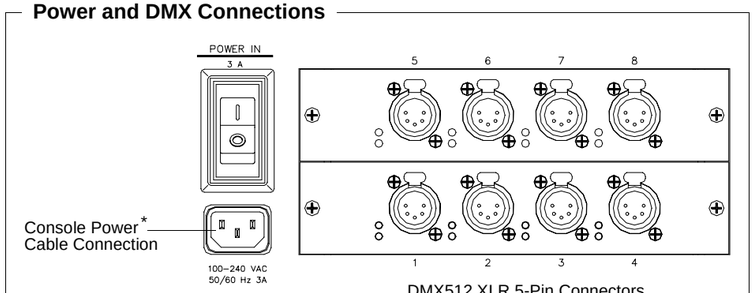
Virtuoso DX Console Connections







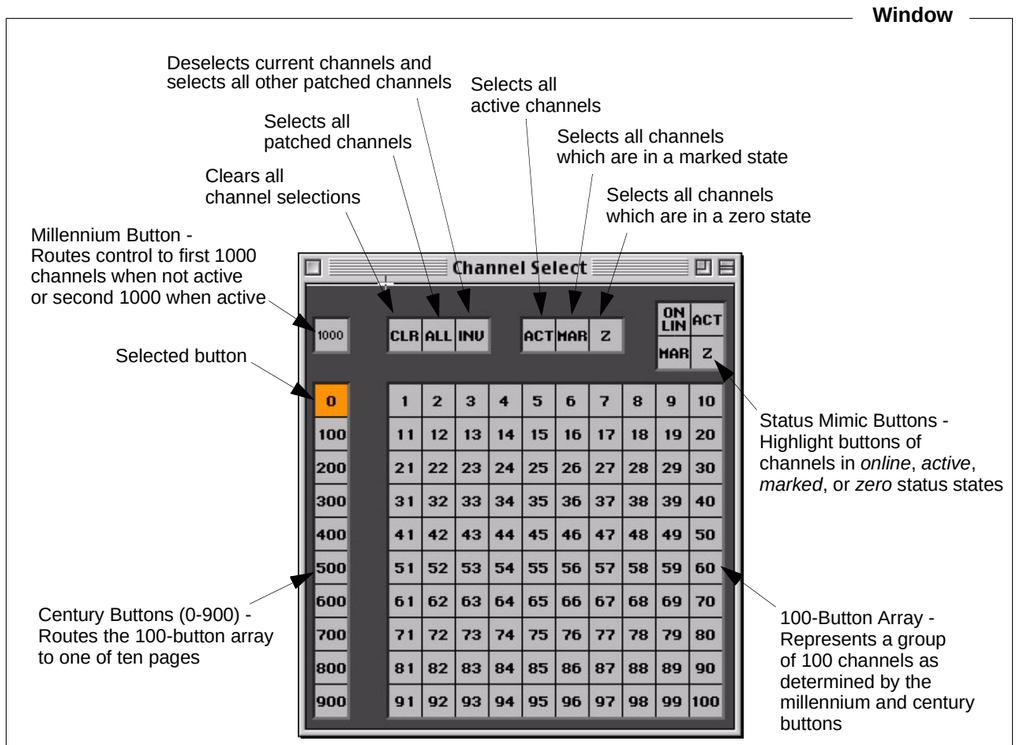


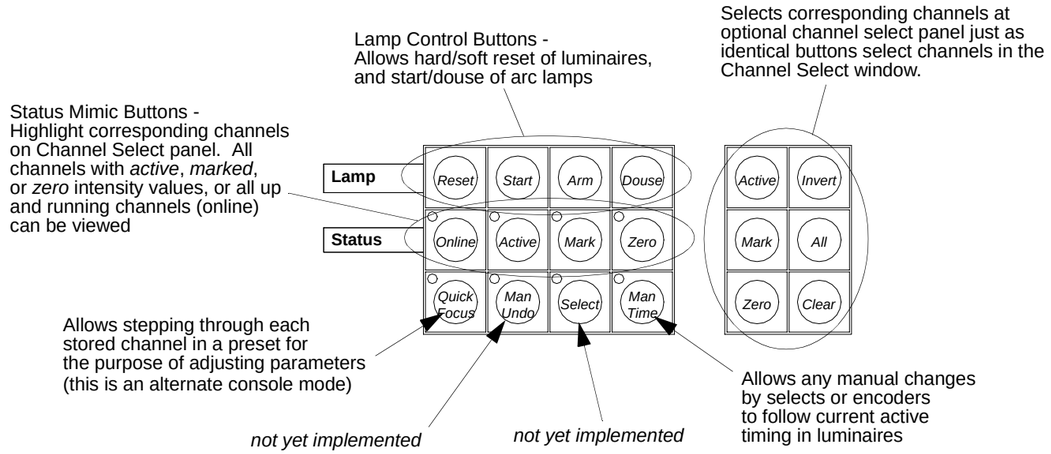


* 3.0 A @ 120 volts 50/60 Hz / 1.5 A @ 240 volts 50/60 Hz

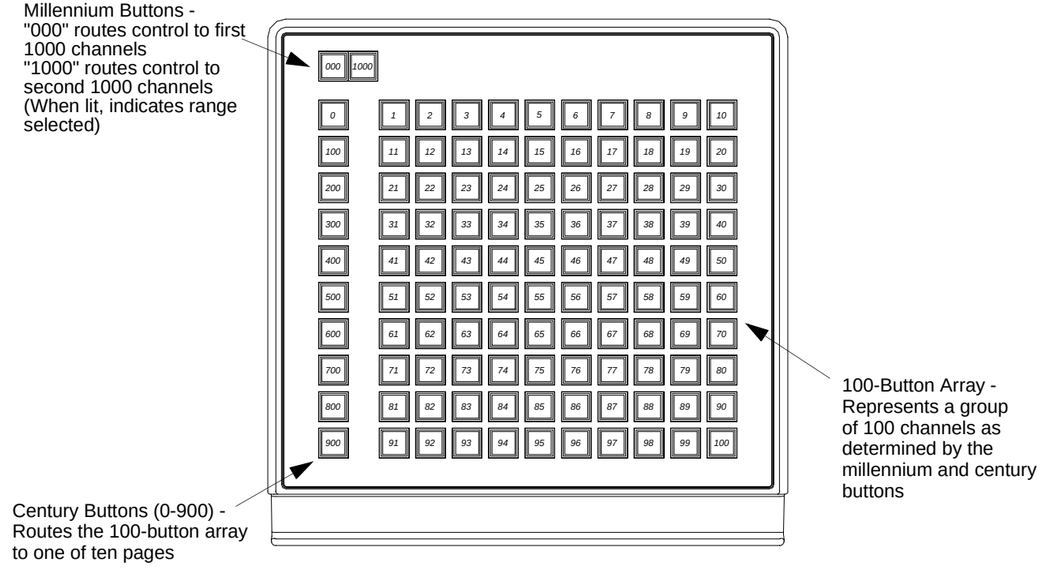
Virtuoso DX Channel Select/Lamp Status

Window


Deselects current channels and selects all other patched channels
Selects all active channels
Selects all patched channels
Selects all channels which are in a marked state
Clears all channel selections
Selects all channels which are in a zero state
Millennium Button - Routes control to first 1000 channels when not active or second 1000 when active
Channel Select
1000
CLR ALL INV
ACT MAR Z
ON LIN ACT
MAR Z
Selected button
Status Mimic Buttons - Highlight buttons of channels in online, active, marked, or zero status states
Century Buttons (0-900) - Routes the 100-button array to one of ten pages
100-Button Array - Represents a group of 100 channels as determined by the millennium and century buttons


Lamp Control Buttons - Allows hard/soft reset of luminaires, and start/douse of arc lamps
Selects corresponding channels at optional channel select panel just as identical buttons select channels in the Channel Select window.
Status Mimic Buttons - Highlight corresponding channels on Channel Select panel. All channels with active, marked, or zero intensity values, or all up and running channels (online) can be viewed
Lamp
Status
Reset
Start
Arm
Douse
Online
Active
Mark
Zero
Quick Focus
Man Undo
Select
Man Time
Active
Invert
Mark
All
Zero
Clear
Allows stepping through each stored channel in a preset for the purpose of adjusting parameters (this is an alternate console mode)
Allows any manual changes by selects or encoders to follow current active timing in luminaires
not yet implemented
not yet implemented

Channel Select Panel (optional)


Millennium Buttons - "000" routes control to first 1000 channels "1000" routes control to second 1000 channels (When lit, indicates range selected)
000
1000
Century Buttons (0-900) - Routes the 100-button array to one of ten pages
100-Button Array - Represents a group of 100 channels as determined by the millennium and century buttons

Virtuoso DX Manual Control

Quick Reference

Common operations and guidelines for using manual controls:

Intensity State Buttons:

- [Full] sets selected luminaires to *full** intensity (100%).
- [Out] sets selected luminaires to an *out** or *inactive* state (no parameter data, 0% level).
- [Mark] sets selected luminaires to a *marked** state (0% level).
- [Zero] sets selected luminaires to *zero** intensity ("hard zero", 0%).
- Shutter [Open] and [Closed] is used with luminaire strobe or douser mechanisms.

* For a more in-depth explanation, refer to "Intensity States" on page 117.

Pan and Tilt:

- [Flip] causes selected luminaires to pan and tilt until the head is pointing in the same direction as before. The head assembly pans 180 degrees and tilts as required so that the head points in the same direction. (DMX moving mirror luminaires will not respond to this command.)
- [Next] and [Last] increment or decrement channel selection (based on the default setting).

Special encoder functions accessed w/ [Shift] button:

- **COLOR**
  Encoder 4 - WHEEL SPIN
- **IMAGE**
  Encoder 1 - WHEEL SPIN, Encoder 2 - ROTATING SPIN, Encoder 3 - ROTATE, Encoder 4 - EFFECTS SPIN, Encoder 5 - EFFECTS ROTATE, Encoder 6 - ZOOM

Store a new min/max setting:

Step 1. Press button for required function. It will be mapped to soft encoders.

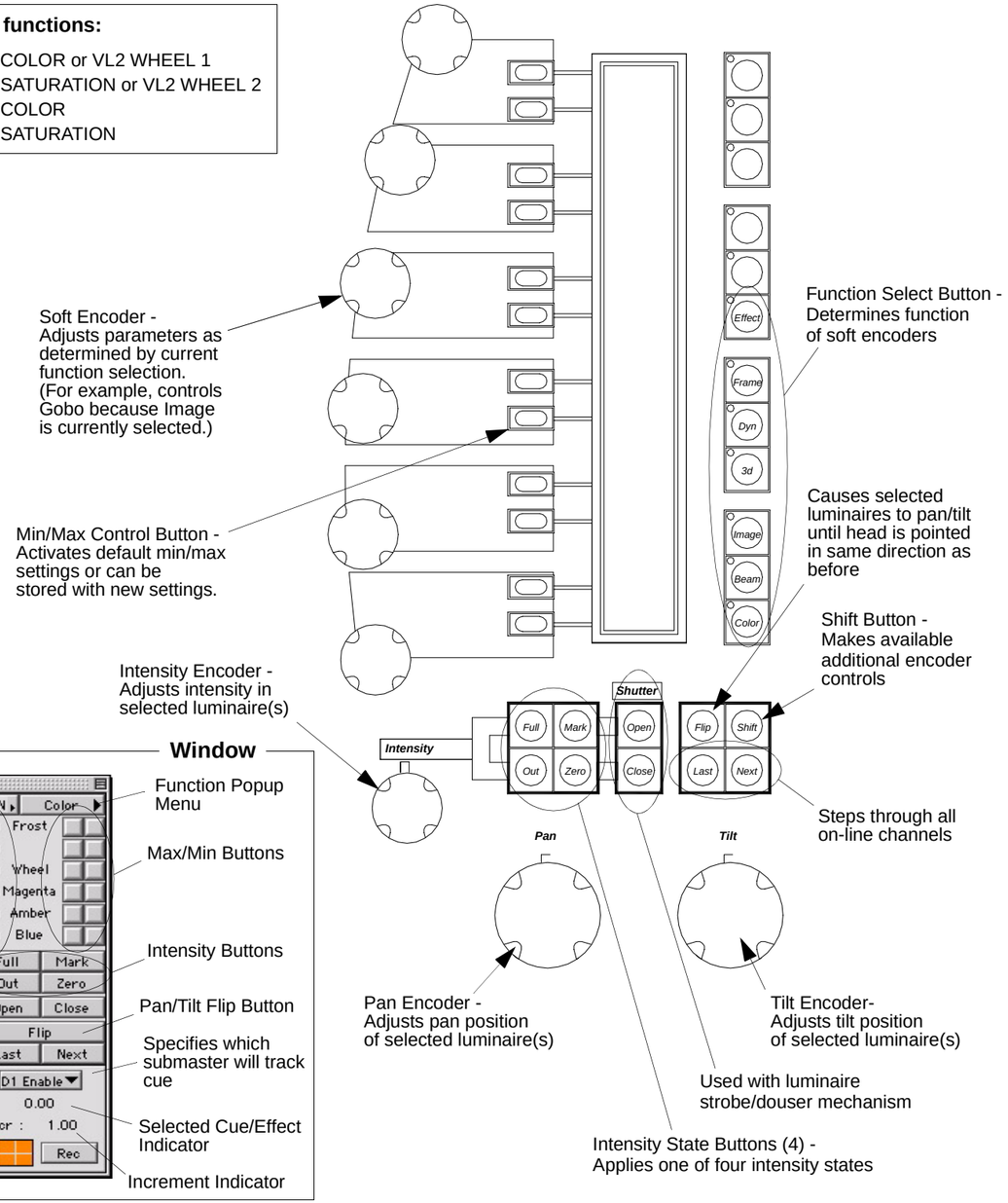
Step 2. Select luminaires to be included in min/max setting. (For example, select all VL6 luminaires.)

Step 3. Using encoders, adjust parameter for new setting.

Step 4. Press [Store] / [Encoder Min/Max Button]. Setting is now stored.

Special color encoder functions:

Encoder 1 - VL7 PLATE 1 COLOR or VL2 WHEEL 1
Encoder 2 - VL7 PLATE 1 SATURATION or VL2 WHEEL 2
Encoder 3 - VL7 PLATE 2 COLOR
Encoder 4 - VL7 PLATE 2 SATURATION



Virtuoso DX Select Displays

Quick Reference

Select displays are provided for storing Preset, Color, Beam, Group, Macro, Snapshot, and Effect parameters. The parameter data can be recalled with a single press of the appropriate select button for the purpose of building consistent cues.

Common operations and guidelines for using the select displays:

Access a different bank within a select display:

- Press and hold [Bank/Function] button while pressing the buttons labeled [11] through [20] to change banks in increments of 100. Each bank will provide 20 select buttons per page.

Access a different page within a select display:

- Press desired page button (1 through 5) at top of select display.

Access a different select in any display window:

- At select display, press and hold [Bank/Function] while pressing [Beams], [Colors], [Presets], [Groups], [Groups], [Macros], [Snaps], or [Effects] as required.

Store a new select:

Step 1. Select required channels.

Step 2. Using manual controls, set all required parameters.

Step 3. Filter attributes as required using touch screen display.

Step 4. Press [Store] / [Select Button] - where Select Button is color, beam, preset, group, macro, snapshot, or effect as required.

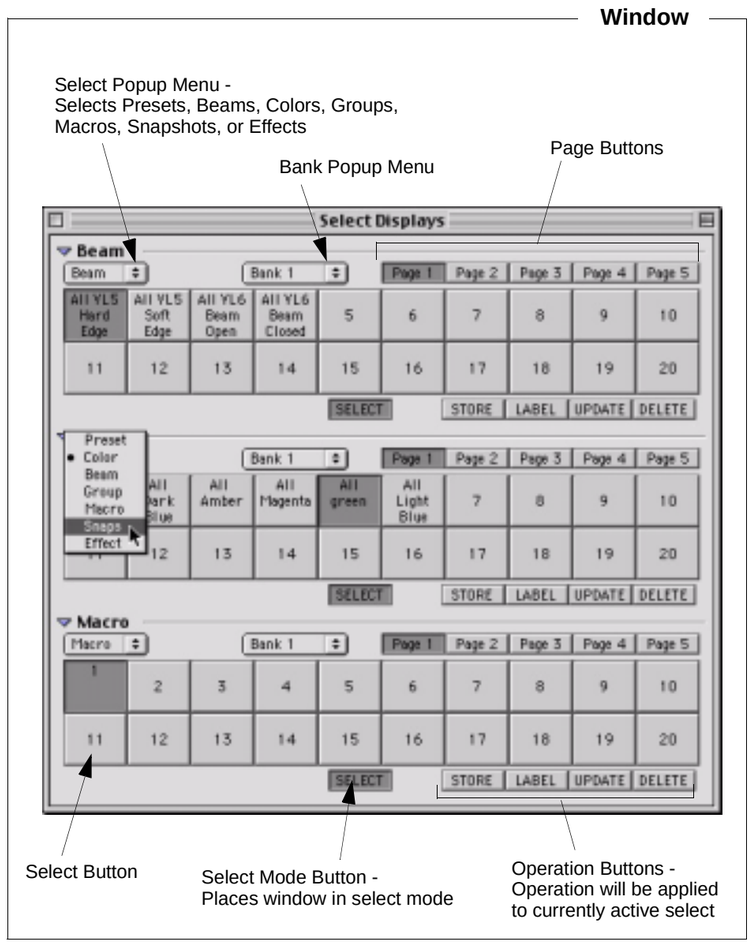
Label a select:

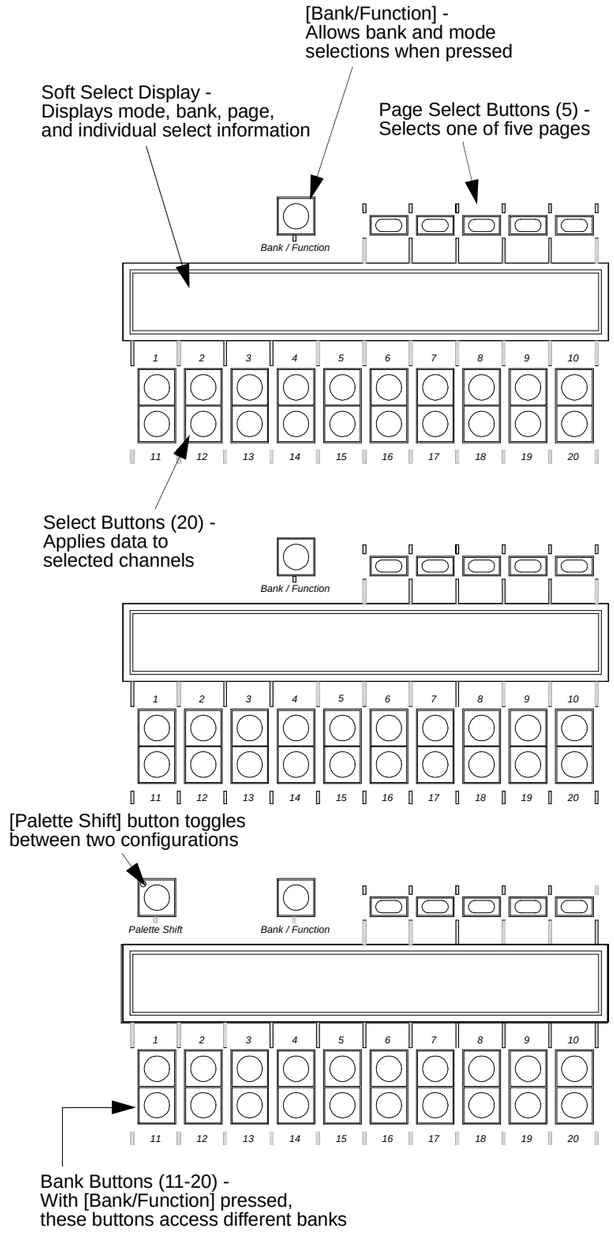
- Press [Label] / [Select Button] [xxxxxx] [return].

Recall a stored select:

Step 1. Select required channels (only selected channels that have data stored in that select will be affected).

Step 2. Press required [Select Button] - where Select Button is color, beam, preset, group, macro, snapshot, or effect as required.

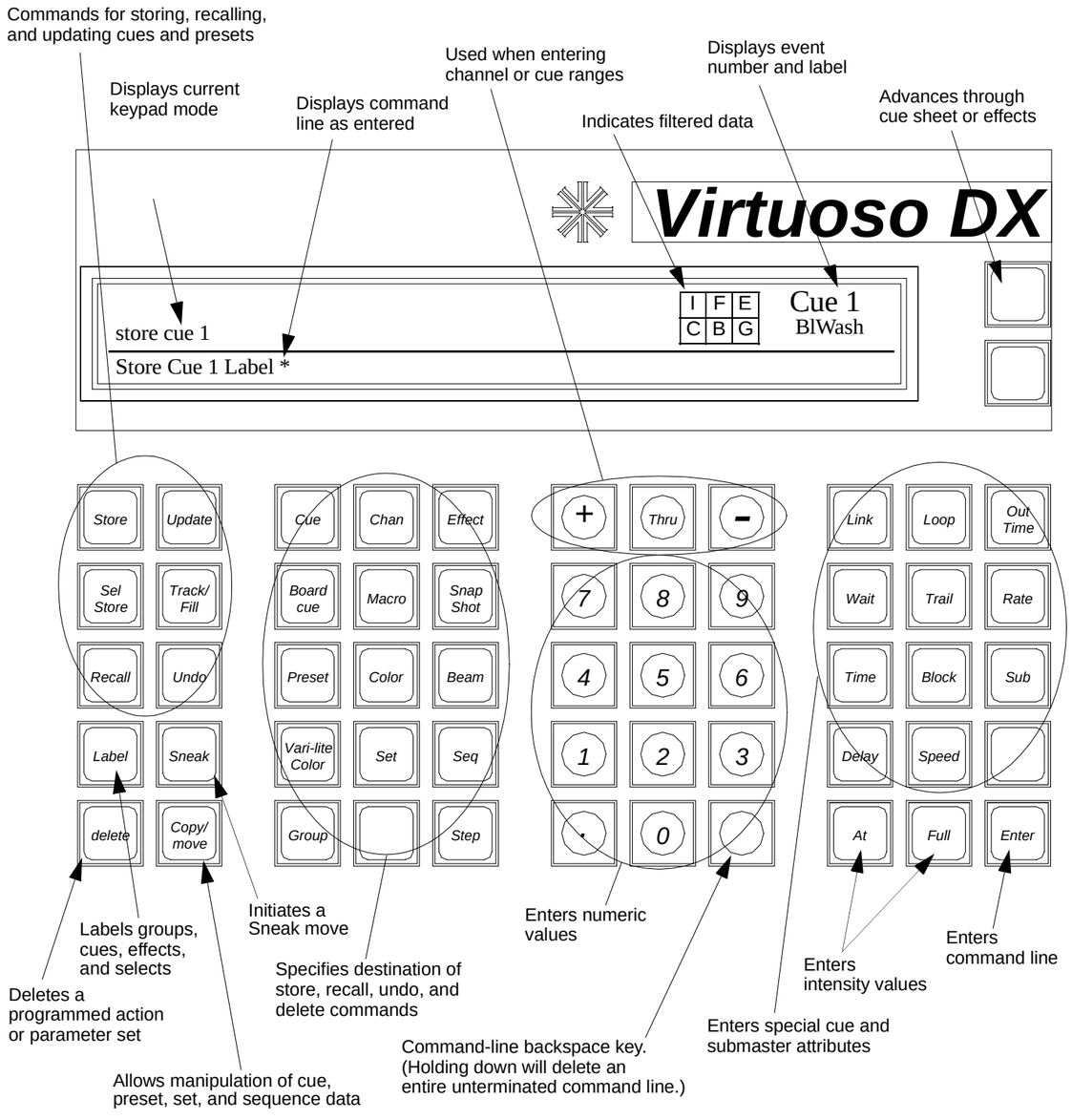



[Bank/Function] -
Allows bank and mode selections when pressed
Soft Select Display -
Displays mode, bank, page, and individual select information
Page Select Buttons (5) -
Selects one of five pages
Bank / Function
Select Buttons (20) -
Applies data to selected channels
[Palette Shift] button toggles between two configurations
Palette Shift
Bank Buttons (11-20) -
With [Bank/Function] pressed, these buttons access different banks

Virtuoso DX Command-Line Keypad

Quick Reference

[At]. . . . . Enters an intensity value. *Example*: <Chan> [5] [At] [7] [5] [Enter].
[Beam] . . . . Stores or recalls a beam state. *Example*: <Chan> [5] [Beam] [2] [0] [Enter].
[Block] . . . . *Feature not yet implemented.*
[Board Cue] Stores or recalls a board cue. *Example*: [Board Cue] [5] [Enter].
[Chan]. . . . . Selects a channel or a range of channels. *Example*: [Chan] [5] [Enter].
[Clear] . . . . Clears command-line entries. Holding down will clear an entire unterminated command line.
[Color] . . . . Stores or recalls a color. *Example*: <Chan> [5] [Color] [3] [0] [Enter].
[Copy/Move]Allows manipulation of preset, cue, sets, and sequences data. *Example*: [Copy/Move] [Cue] [1] [Cue] [2] [Enter].
[Cue]. . . . . Stores or recalls a cue. *Example*: [Store] [Cue] [5] [Enter].
[Delay] . . . . Adds a countdown time to a luminaire parameter (used with touch screen). *Example*: [Delay] [1] [Enter].
[Delete]. . . . Deletes a soft select, cue, effect, group, etc. *Example*: [Delete] [Group] [5] [Enter].
[Effect] . . . . Recalls an effect. *Example*: [Effect] [5] [Enter].
[Full]. . . . . Sets intensity value to 100%. *Example*: <Chan> [5] [Full] [Enter].
[Group]. . . . Stores or recalls a group. *Example*: <Chan> [1] [Thru] [9] [Store] [Group] [5] [Enter].
[Label] . . . . Used to label cues, groups, macros, effects, etc. *Example*: [Store] [Beam] [5] [Label] [Enter] [xxxxxx] [return].
[Link] . . . . . Links together cues, effects, snapshots, and macros for auto playback. *Example*: <Cue> [2] [Link] [Macro] [3] [Enter].
[Loop]. . . . . Defines the number of times a linked sequence of cues is to execute. *Example*: <Cue> [5] [Loop] [9] [Enter].
[Macro]. . . . Stores or recalls a Macro (requires additional button presses during store). *Example*: [Store] [Macro] [Enter].
[Out Time] . Defines an intensity fade out time. *Example*: [Store] <Cue> [5] [Out Time] [7] [Enter].
[Preset] . . . . Stores or recalls a preset. *Example*: <Chan> [5] [Preset] [7] [Enter].
[Rate] . . . . . Alters recorded time/speed attributes for cues, board cues, or effects. *Example*: [Store] <Cue> [5] [Rate] [5] [0] [Enter].
[Recall]. . . . Recalls specific data from a cue, preset, or beam state (used with filters). *Example*: [Recall] <Cue> [m] [Enter].
[Sel Store] . Modifies/adds parameter data to a cue, preset, or beam for specified channels. *Example*: [Sel Store] <Cue> [5] [Enter].
[Seq]. . . . . Can be used when programming an effect. *Example*: [Effect] [3] [Seq] [4] [Enter].
[Set] . . . . . Can be used when programming an effect. *Example*: [Effect] [3] [Set] [4] [Enter].
[Snap Shot]. Stores or recalls a snapshot (used with Snapshot Filter window). *Example*: [Store] [Snap Shot] [5] [Enter].
[Sneak] . . . . Works with Sneak Mode to provide manual control of luminaires. *Example*: [Sneak] [5] [5].
[Speed] . . . . Sets rate of change for a luminaire parameter (used with touch screen). *Example*: [Speed] [1] [Enter].
[Step] . . . . . Stores an action into a step (component of an effect sequence). *Example*: [Step] [1] [Cue] [n] [Enter].
[Store]. . . . . Initiates store actions. *Example*: [Store] [Cue] [2] [3] [Enter].
[Sub]. . . . . Loads a linked cue into a specific submaster. *Example*: [Store] <Cue> [5] [Link] [2] [0] [Sub] [4] [Enter].
[Thru] . . . . . Defines a range selection. *Example*: <Chan> [1] [Thru] [5] [Enter].
[Time]. . . . . Enters a parameter time value (used with touch screen). *Example*: [Time] [1] [.] [.] [3][Enter].
[Track/Fill] . *Feature not yet implemented.*
[Trail] . . . . . Adds a trail time to a cue. *Example*: [Store] <Cue> [5] [Trail] [1] [Enter].
[Undo] . . . . Reverses the last store, update, or delete action. *Example*: [Undo] [Enter].
[Update] . . . Stores modified channels back into their source cues. *Example*: [Update] <Cue> [5] [Enter].
[Vari-Lite Color]Stores or recalls a color based on VARI∗LITE color palette. *Example*: <Chan> [6] [Vari-Lite Color] [1] [0] [1] [Enter].
[Wait] . . . . . Adds a wait time to a cue. *Example*: [Store] <Cue> [5] [Wait] [1] [Enter].



Virtuoso DX Submasters

Quick Reference

Common operations and guidelines for using submasters:

Play a cue or effect:

Step 1. At keypad, press [Cue] [n] [Enter] or scroll through cue list to recall a cue, or press [Effect] [n] [Enter] or select effect at an Effect select display.

Step 2. At desired submaster, press [Select] to select submaster for playback function.

Step 3. Press [Load] to place cue/effect in submaster's pending file.

Step 4. Ensure Grand Master and submaster faders are set at full.

Step 5. Press [Go] to play.

Play next cue or effect:

- Press [Go] to play back pending event.

Play previous cue or effect:

- Press [Back] to play previous event.

Stop/Step:

Step 1. Press [Stop/Step] to stop a running autofollow.

Step 2. Press [Stop/Step] repeatedly to step through cues without autofollows.

Step 3. Press [Run] to resume playback with autofollows.

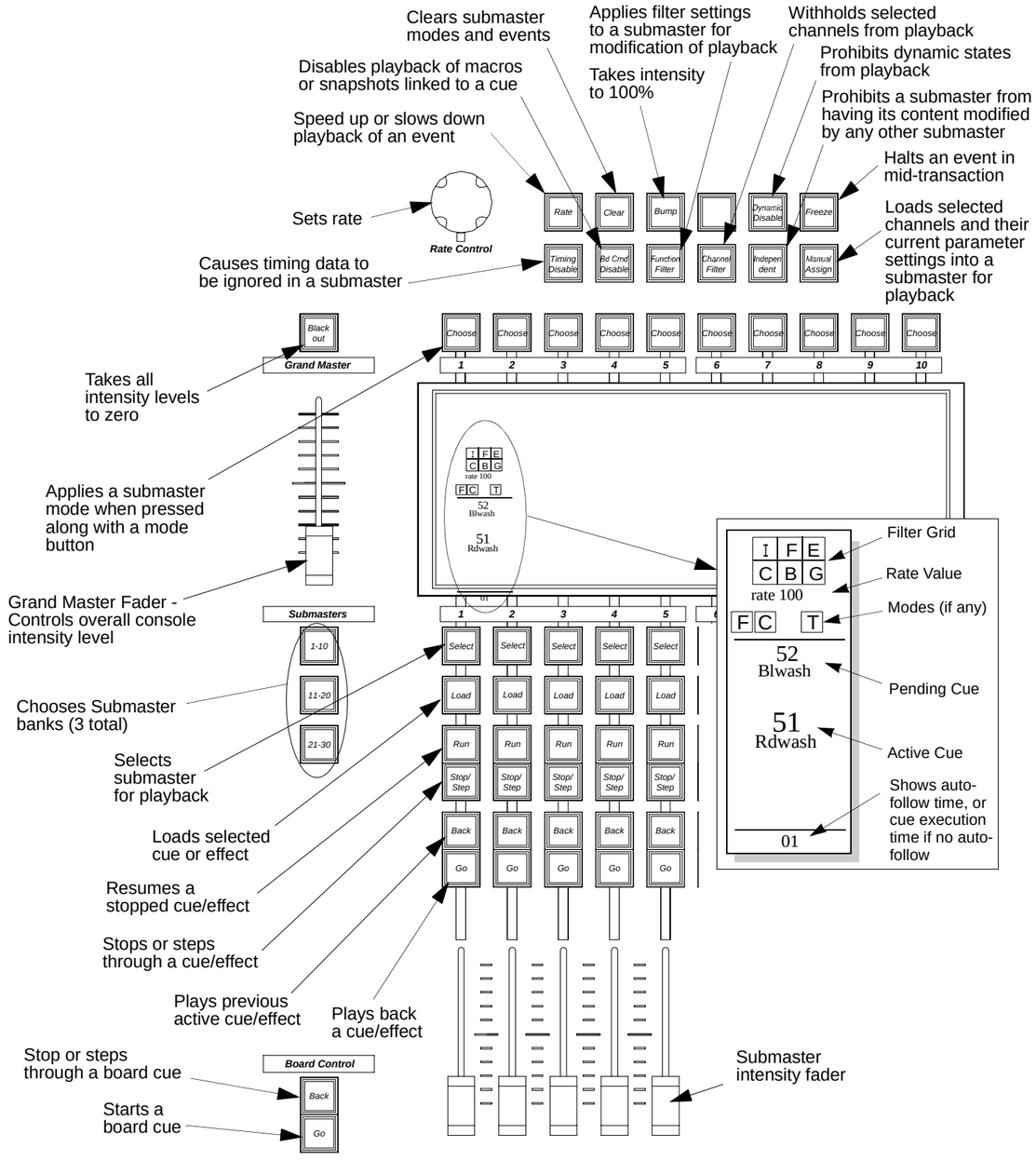
[Choose] and [Clear] buttons:

- [Choose], when pressed with any of the submaster mode buttons, allows the submaster to be placed into one of the following modes: Rate, Freeze, Function Filter, Channel Filter, Dynamic Disable, Time Disable, Independent, and Manual Assign.
- [Clear] releases a submaster from an applied mode, returning it to its default state. To release a submaster from a mode, press [Clear] along with the [Choose] button for the required submaster.

Intensity:

Final playback intensity is determined by following combination (in order):

1. Intensity value stored in the cue or effect being played back.
2. Fader setting of the submaster being used to playback the event.
3. Setting of the Grand Master fader or associated [Black Out] button.



Virtuoso DX Timing/Filter Display

Quick Reference

Common operations and guidelines for using Timing and Filter functions.

TIMING

Set an entire timing scheme:

Step 1. At touch screen, select a parameter(s) with hard or soft buttons.

Step 2. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value. Time value will appear in cells of selected parameters at touch screen.

Step 3. Repeat steps 1 and 2, selecting different parameters and entering new values.

Step 4. Select channels as required.

Step 5. Press Timing [Enter] button to send all values in screen.

Send a timing value directly to a selected parameter:

Step 1. Select channels as required.

Step 2. At touch screen, select a parameter with hard or soft buttons.

Step 3. At keypad, press [Time], [Delay], *or* [Speed] as required, followed by time value and then [Enter]. Time value will appear in cell of selected parameter at touch screen and be sent directly to selected channels.

FILTERS

Using filters while storing cues:

Step 1. Set filters as required. (When filters are selected (highlighted), the associated parameters will be the only parameters stored during any subsequent cue store operations. When filters are deselected (not highlighted), the associated parameters will *not* be stored during any subsequent cue store operations.)

Step 2. Press filter [To Cue]. The filter state will be applied to all cues stored from this point on, until changed.

Step 3. Store cue as usual.

Time Format

Time is entered at the keypad in minutes and seconds, seconds, or seconds and tenths of seconds. (Max time 59:59)

Examples :

[2] [5] = 25.0 (25 sec)
[2] [.] [.] [5] = 2:05 (2 min, 5 sec)
[1] [.] [3] = 1.3 (1.3 sec)
[.] [5] = .5 (1/2 sec)

Speed Format

Speed is entered at the keypad in degrees per second.

Luminaire	Rate	Max Speed
VL2	120	200
VL4	240	400
VL5	220	400
VL6/VLM	280	400
VL7	150	400